



Prevention and Awareness

“An ounce of prevention is worth a pound of cure.”

Ben Franklin

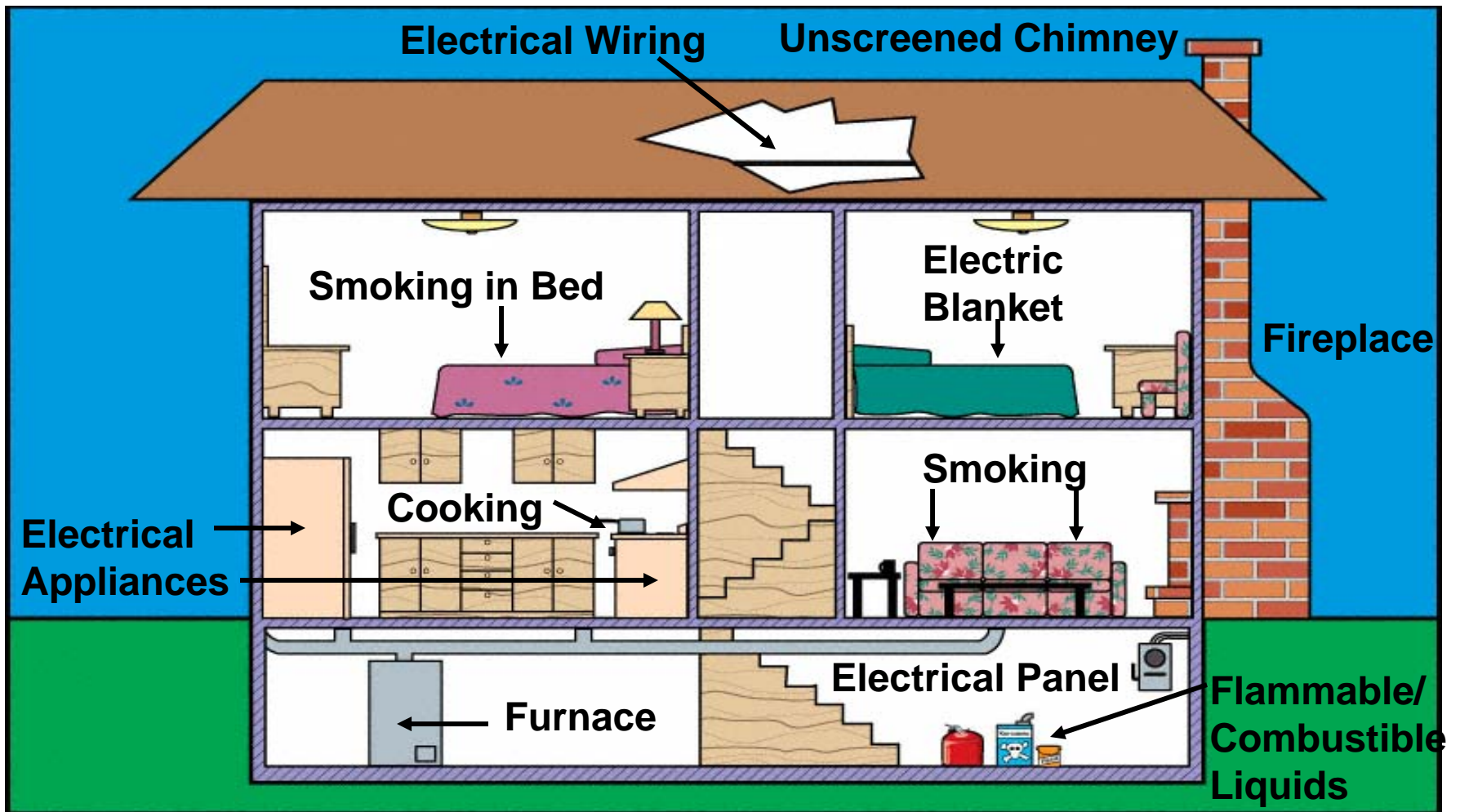
Fire Hazard Awareness

- **Hazard defined:** A condition or conditions that will allow or facilitate injury or death to occur. These conditions can encourage fire to start or materials to produce toxins.
- **Fire**
 - Fuel supply hazards
 - Wood, cloth, paper
 - Flammable liquids
 - Flammable gases
 - Chemicals
 - Heat source hazards
 - Chemical
 - Electrical
 - Mechanical

Fire Hazards Awareness

- Actual Statistics
 - Every 18 seconds there is a fire in the United States. The U.S. has the 4th highest fire death of all industrialized countries. Someone dies on the average of once every two hours. Injuries once every 23 minutes.
 - Fire kills more Americans than all natural disasters combined NFPA
 - National fire death rate was 13.0 deaths per million
 - Pennsylvania fire death rate was 15.9 per million

COMMON CAUSES OF DWELLING FIRES



Fire Hazards Awareness

- The risk of death for people age 65 and over is 3 times greater than adults under age 65.

Why?

- less able to take quick action
- may be on medication that affects ability to make quick decisions
- many live alone



Fire Hazards Awareness

- According to the National Fire Protection Association 370,000 home fires every year
- Electrical fires have accounted for more than 50,000 home fires a year
 - \$1.5 billion in property damage



Fire Hazards Awareness

- Where do most fires occur?
 - Most fires occur in the home and 80% of all fire deaths occur in the home.



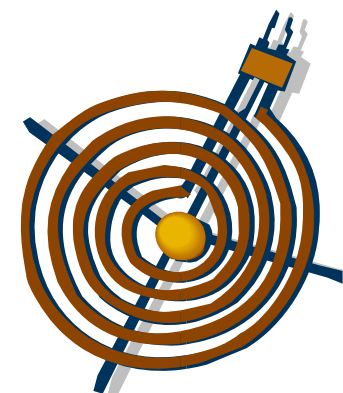
Fire Hazards Awareness

- What are the leading causes of fires in the nation?
 - cooking
 - smoking
 - heating



Fire Hazards Awareness

- Kitchen hazards and clutter
 - Paper towels, pot holders, recipe cards
 - Sitting near your stovetop, ready to ignite?
 - 41 percent of home fires start in the kitchen?
 - **Keep a 3-foot zone between combustible materials and the burners**
 - Never leave cooking unattended.



Fire Hazards Awareness

- **Clothes dryer**
 - Even if you dutifully empty your lint tray every time you dry clothes, lint and materials can still build up inside the dryer cabinet.
 - The heating element and is usually located at the back or bottom of the machine.
 - If enough lint accumulates a fire can start
 - Minimize risk and hire a professional service person to clean the cabinet every two years.

Fire Basics

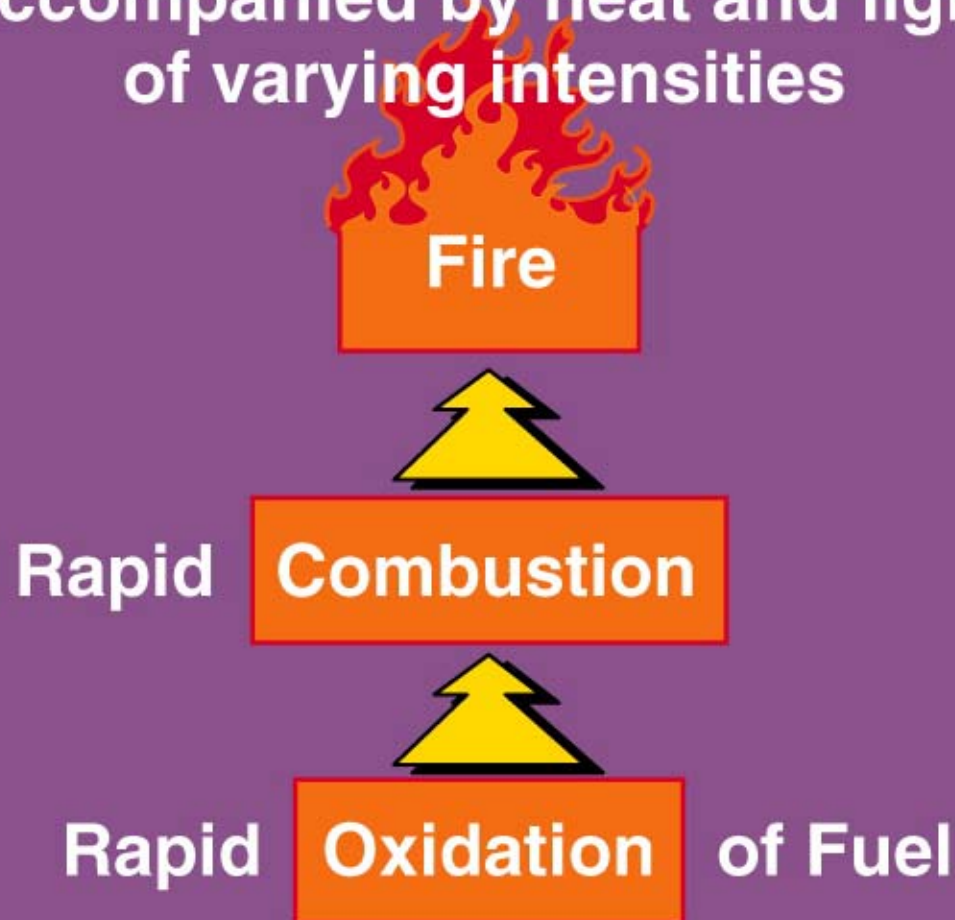
- What is fire?
- What is flashover?
- What is back draft?
- What is tenable environment?



FIRE

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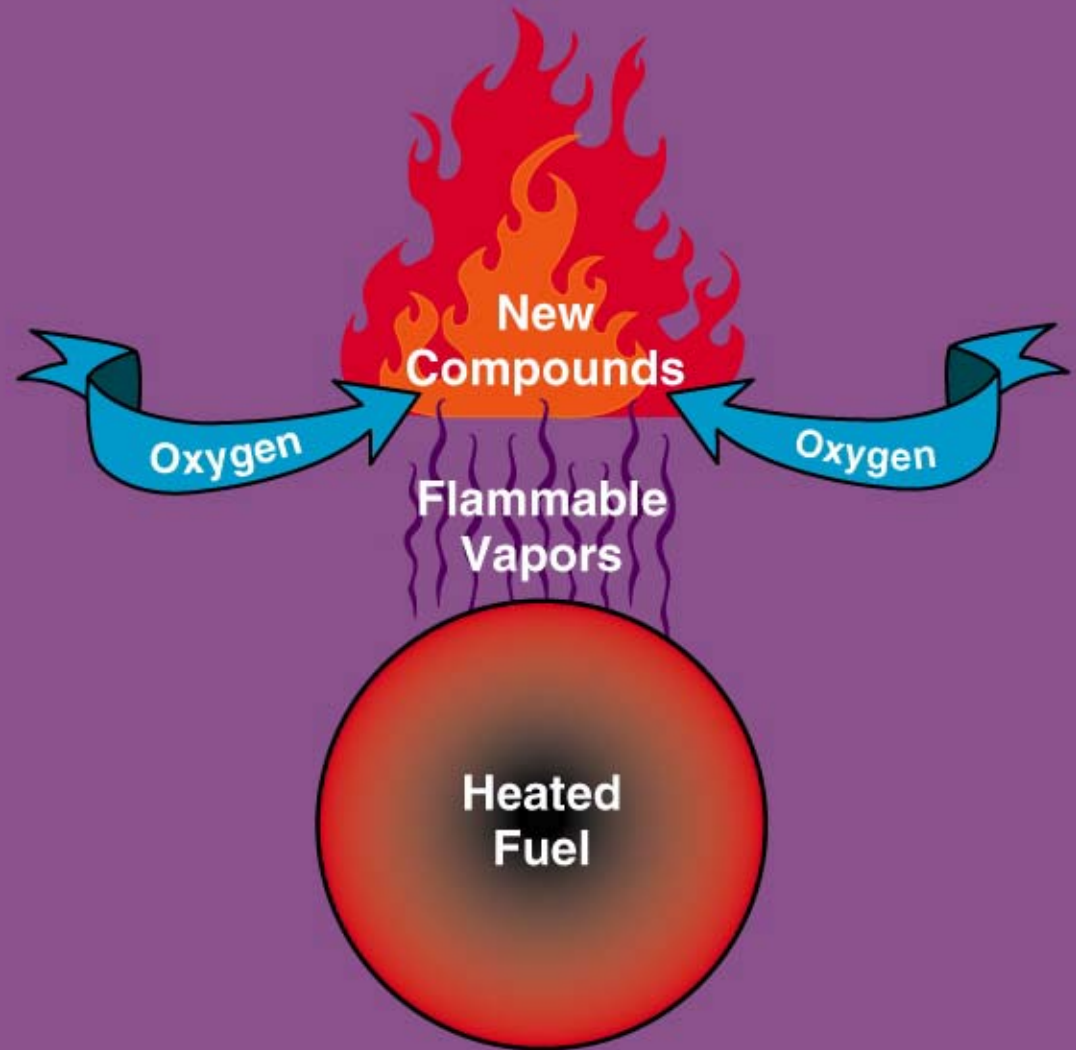
Fire is rapid self-sustaining oxidation accompanied by heat and light of varying intensities



CHEMICAL CHAIN REACTION

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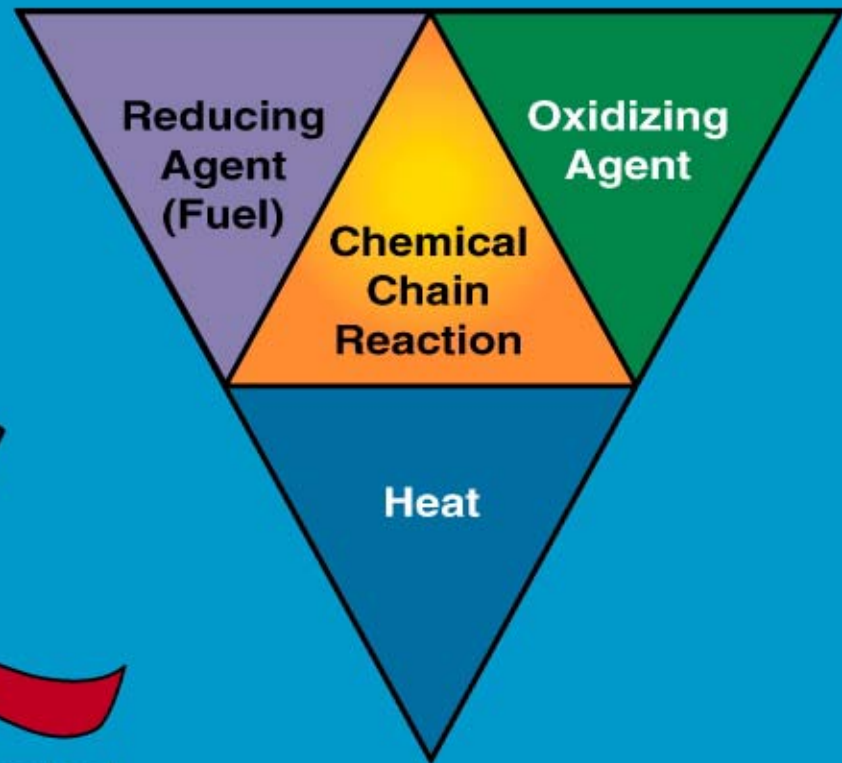
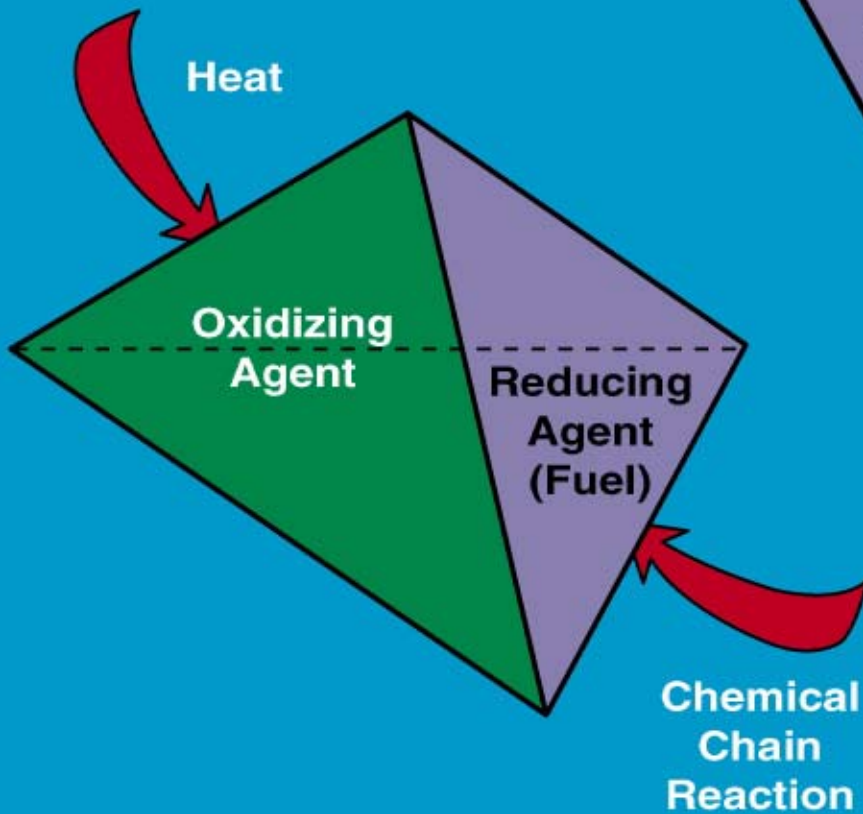
1. Heated fuel releases vapors.
2. Vapors combine to create new compounds.
3. The new compounds combine with oxygen and ignite.



COMBUSTION

2-7

The Fire Tetrahedron



FUEL SOURCES

2-9



Only Gases Burn

Solid Matter + Pyrolysis = Fuel Gas

Liquid Matter + Vaporization = Fuel Gas

Gaseous Matter = Fuel Gas

Phases of Fire

First phase or incipient

- O2 content: 20 to 21 %
- Ceiling temperature approx. 100 degrees
- Smoldering combustion may last seconds to several hours before breaking into flame. Large quantities of smoke until flaming starts
- Rapid progress after flames start flaming combustion

Phases of Fire

Second phase or Free Burning

- O2 content: 15 to 19 %
 - Ceiling temperature range 1000 to 1300 degrees
 - Large quantities of dark gray smoke.
 - Rapid destruction
 - Roll over
 - Flashover and flame spread
- a. Free burning event
- b. Exposed surfaces reach simultaneous ignition temperature
- c. Conditions:
 - Average room temperature 930 to 1300 degrees
 - Flames flashing over the entire surface of a room or area.
 - O2 levels on smoke layer drop to 5 % or less.
 - Burning of fire gases outside the room of origin.
 - Survival of flashover conditions is rare.
 - Can occur in *any* confined space.

Phases of Fire

Third Phase

- O2 content : Less than 15 %
- Ceiling temperature above 1000 degrees
- Dense dark flammable smoke and toxic gases
- Flammable fuel vapors distilled and collecting
- Little flaming combustion

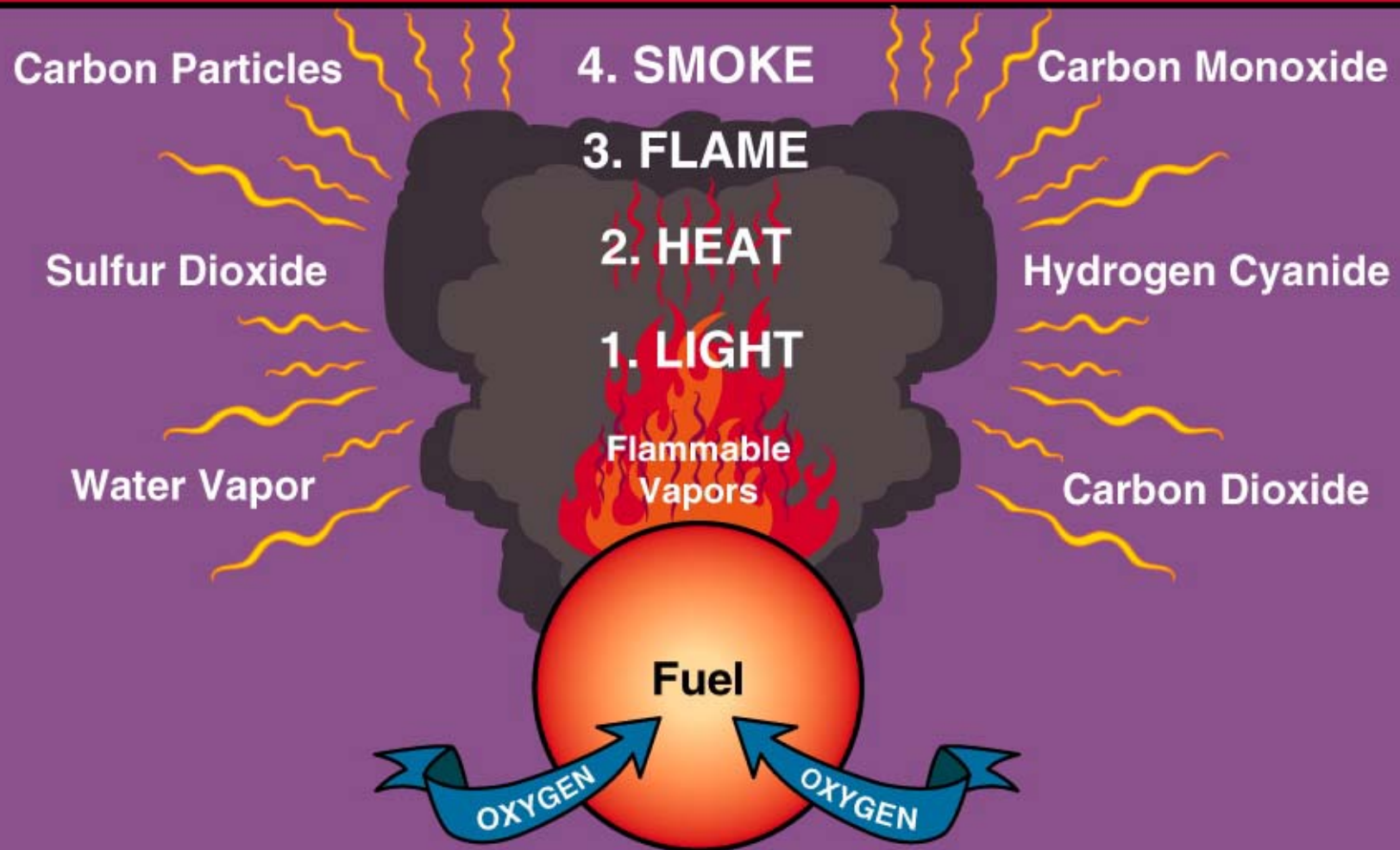
Phases of Fire

Third Phase

- Back draft or smoke explosion possible
 - Little flame showing
 - High temperatures
 - Smoke under pressure. Puffing or pushing smoke
 - Smoke color dark, dirty color yellow gray.
- Tenability
 - Refers to whether or not people can remain unhurt in a fire area or escape with no serious health affects.
 - Various factors affect survival.

PRODUCTS OF COMBUSTION

2-23



OXYGEN & COMBUSTION

2-8

21%
Oxygen



18%
Oxygen



14%
Oxygen
(Will Not Support
Combustion or Respiration)



Prevention

- pre·ven·tion
 - *noun* \pri-'ven(t)-shən\ : the act or practice of stopping something bad from happening : the act of preventing something



Prevention

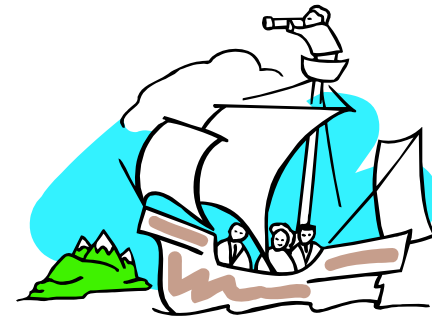
- Fire Causes
 - Carelessness & Neglect
 - Intentional (Arson)
 - Natural occurrence: “Acts of God”
 - All comes down to sources of heat
 - Chemical
 - Mechanical
 - Nuclear
 - Electrical
 - Solar



Home Fire Hazards

Eliminate Them!

- Conduct a home safety survey.
 - **Exterior hazards**
 - lighting, shrubbery, visible house numbers, etc.
 - **Interior hazards**
 - survey each room of the house



Parts of The Fire Survey

Use you senses to discover and uncover

Interior Survey

Exterior Survey

Home Safety Issues

Interior Survey Concerns

- Combustible materials
- Appliances
- Electrical wiring and equipment
- Portable heating units
- Woodstoves or fireplaces
- Heating fuel
- General housekeeping practices
- Smoke detectors
- Electrical distribution panels
- Gas appliances
- Oil burning installations
- Furnaces, hot water heaters, and vent pipes
- Shop or work rooms
- Accumulated waste
- Flammable liquids



Outside Survey Concerns

- Roof
- Chimneys and spark arrestors
- Yard and porch areas
- Barbecues and fuel
- Outside waste burners
- Garages, sheds, barns, and outbuildings
- Flammable liquids and gases
- Lightning protection
- Security devices



Interior Home Fire Hazards

The Living Room

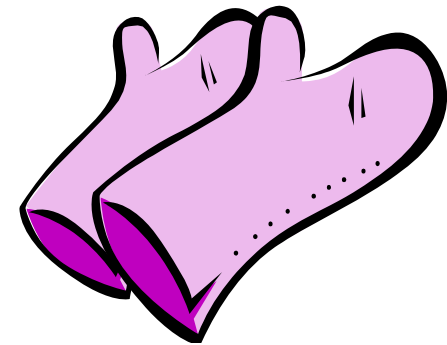
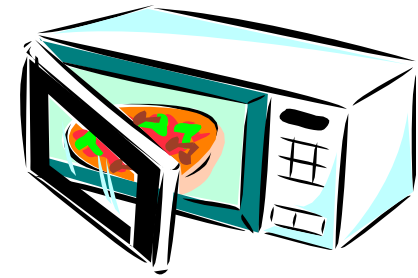
- Check use of extension cords
 - temporary/not under the carpet
- Fireplace/heating appliances
 - creosote free
 - fireplace screens
 - space heaters (3 feet of space)
- Safe smoking practices



Interior Home Fire Hazards

The Kitchen

- The most dangerous room
- Check cords on electrical appliances
 - replace frayed or worn cords
 - unplug appliances when not in use
- Use safe cooking practices
 - never leave cooking unattended
 - pot handles/covers/microwaves
 - no storage in ovens
- Fire Extinguisher



Interior Home Fire Hazards

The Bedroom

- Use of oxygen
 - shut off if fire starts
- No extension cords under rugs
- Safe smoking practices
- Know two ways out
- Accessible windows
- Burglar bars which are quick release to the inside of the window



Interior Home Fire Hazards

The Bathroom

- Hot water heater
 - thermostat at 120 degrees Fahrenheit
 - automatic shut-off
- Safety measures
 - non-skid strips/flashlights
 - grab bars/chairs
 - telephone



Home Fire Hazards

Safety Devices

- Early warning devices
 - smoke alarms/heat detectors: most important and check monthly
 - carbon monoxide (CO) detectors: in a fire, most people die from CO
- Safety measures
 - lifeline alerts
 - residential sprinklers
 - fire resistive clothing/upholstery

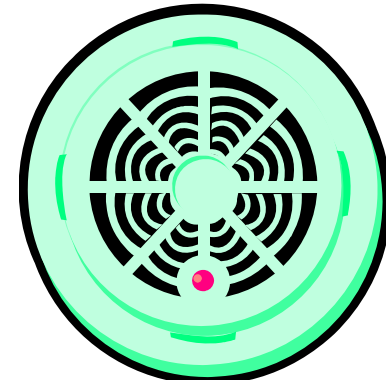


Home Fire Hazards

Detectors

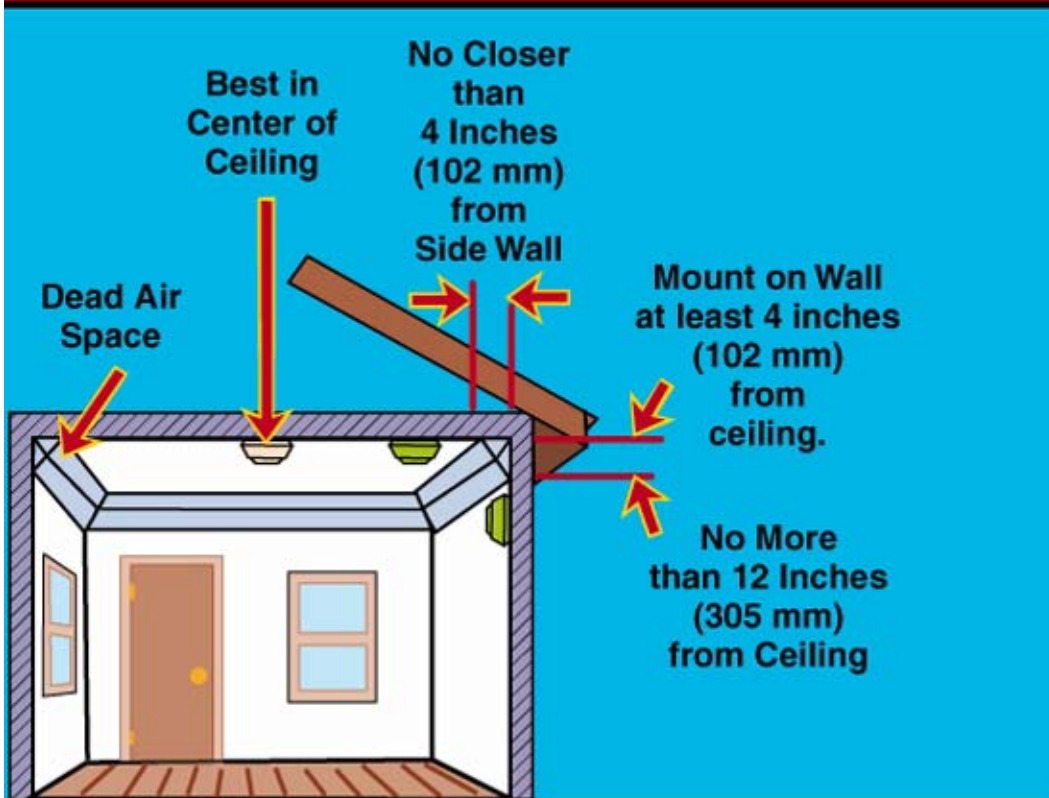
- Smoke alarms/heat detectors
 - purpose
 - installation
 - maintenance

- Carbon monoxide detectors
 - purpose
 - installation
 - maintenance

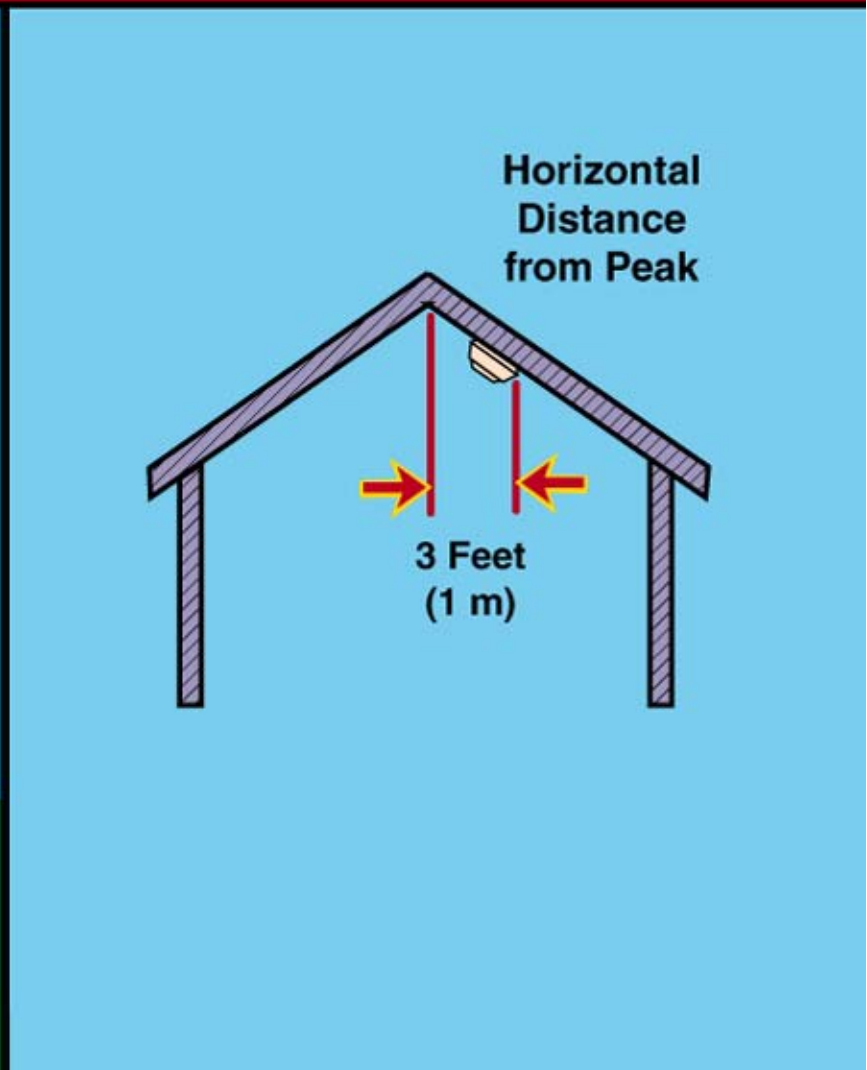


PROPER MOUNTING OF SMOKE DETECTORS

19-3



-  Best Location
-  Acceptable Location



Basic Safety Sense

- When appropriate close doors to bedrooms closed during sleeping hours.
- Have two (or more) escape exits from every room.
- Ensure that windows can be easily opened.
- Train and practice using fire escape ladders.
- Know how to alert staff and residents of fire or evacuation necessity.
- Practice skills to roll out of bed onto the floor.

Basic Safety Sense

- Stay low and crawl to door.
- Feel door; if it is warm, use window for escape.
- Establish a meeting place outside the home.
- Never go back inside the house once outside.
- Use your procedures to call or confirm need for fire response.

Fall Hazard Awareness

- 10 % to 17% of people 65 years of age or older have fallen.
- Approximately 10 % of the falls have resulted in serious injuries that include hip fractures, blood clots, serious lacerations and cuts or death.
- 30% to 73% of surveyed elderly fear falling.
- Accidental falls are the most common...caused by existing environmental conditions.

Fall Hazards Awareness

- Consequences include:
 - Fractures
 - Dislocations
 - Fear of falling
 - Loss of confidence to move independently
 - Increased risk of falling
 - Activity limitations
 - Head, neck, and spine injury



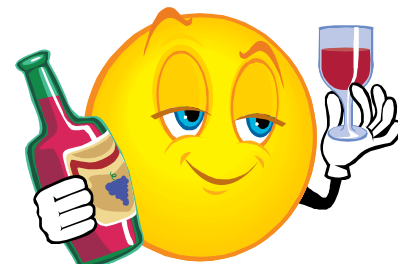
Fall Hazards Awareness

- Risk factors to consider:
 - Pets
 - Dim lighting
 - Wires and cables
 - Height and position of furniture
 - Carpets or flooring materials
 - Loose?
 - Slippery?
 - Vision issues



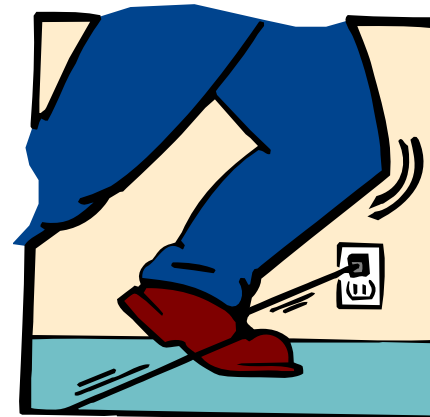
Fall Hazard Awareness

- Risk factors to consider:
 - Clutter
 - Shelving and items out of reach
 - Shoes, slippers, footwear...old or worn out?
 - Soles slippery?
 - Laces tied?
 - Lack of exercise and muscle atrophy?
 - Alcohol or drug concerns?



Fall Hazard Awareness

- Falls most likely to occur at home
- Most common areas (in order of occurrence)
 - Living room
 - Bedroom
 - Bathroom



Fall Hazard Remedies

- Wires along walls or taped in place
- Well lit areas
- No clutter
- Chairs to fit your needs...not too high...not too low
- Beds to fit your needs...not too high...not too low
- Proper use of walking aids as needed

Fall Hazard Remedies

- Night lights
- Non-slip mats or surfaces
- Grab bars
- Proper floor maintenance
- Do not stand on chairs
- Clean up spills
- Identify and remove trip hazards

Fall Occurs...Now

- Do not panic...calm is not about feeling good ...it is about function
- Assess yourself...do not lie about your condition to yourself
- Do not try to get up immediately...move only if you can
 - Move hands and legs only at first...slowly
 - Call for help if in pain or difficulty with movement

Estimates of Foodborne Illness in the U.S. Each Year



5,000 people may die

Recognizing Foodborne Illness

- Can't rely on seeing, smelling or tasting bacteria in food
- Often takes 1 to 3 days to cause illness, but can take up to 6 weeks or longer to develop symptoms
- Common symptoms may include:
 - Nausea/vomiting
 - Diarrhea
 - Fever
 - Dehydration (sometimes severe)



Where Can Pathogens Come From?

- Purchased foods
- Food gifts
- Home-grown foods
- Indoor and outdoor animals
- Water
- Your environment



Food Safety at Home

Follow four basic rules

- Clean
- Separate
- Cook
- Chill



If at-risk for foodborne illness,
avoid high risk foods

Clean



- Clean Hands



- Clean Food



- Clean Surfaces



- Cover Food

Hand Washing

- Remove major grime first by rinsing in warm water.
- Lather hands with soap.
- Rub palms, between fingers and back of hands and up the wrist at least 2 inches.
- Rub for at least 20 seconds.
- Rinse in clean, warm water.
- Dry completely using a clean cloth or paper towel.



J Food Prot. 2003;66:1893-1899.

When to Wash Hands

- When you return home.
- After using the rest room.
- Before preparing or eating any food.
- After smoking, sneezing, blowing your nose or coughing.
- Any other time your hands might have been contaminated.



J Food Prot. 2003;66:1893-1899.

Clean Fresh Produce



- Choose whole fruits and vegetables over pre-cut and packaged.
- Don't cut fresh produce until you are ready to prepare them for a meal.
- Prepare only the amount you can eat in one meal.

Clean Fresh Produce

- Wash your hands and use a clean cutting board and knife.
- Just before preparing or serving, wash raw produce in cold, clean running water for several minutes. This includes outside of melons or other fruits to be peeled.
- If you do not use city water inside the house, be sure your water source is clear of micro-organisms. Test your water at least yearly.



Food Prot. Trends 2007;27:892-898.

Clean Fresh Produce

- Don't store wet produce. Wash just before preparation or dry thoroughly before placing in the refrigerator.
- Use paper towels or a salad spinner to remove moisture.
- Discard cut produce if it appears spoiled or package date has passed.



Food Prot. Trends 2007;27:892-898.

Change Dish Cloths/Towels Daily

Wet or damp dishcloths are ideal places for bacterial growth.

- Use paper towels or disposable cloths to clean up kitchen surfaces after working with raw meat, fish or poultry.
- Change or wash dish cloths and towels daily.
- Sponges in the kitchen are not recommended.



Cleaning Kitchen Towels & Dishcloths

- Kitchen towels and dishcloths are cleaned by moving and rubbing against each other.
 - Do not overload washing machine.
- The ideal water temperature for washing towels is above 160 °F (71°C).
- Drying in a dryer kills the bacteria.
- The heat from the dryer will sanitize the towel.



Washing and Sanitizing Dishes

- Hand wash dishes in 4 steps:
 - Rinse off all food.
 - Wash with liquid detergent and very warm water.
 - Rinse in very hot water.
 - Rinse with sanitizing solution made with 1 Tablespoon of chlorine bleach for each gallon of cool water.



Food Safety at Home

Clean Surfaces

- Wash cutting boards, dishes, utensils, and counter tops with warm soapy water after preparing each food and before going to next one.
- For added protection, spray counter tops and cutting boards with kitchen sanitizer (1 teaspoon bleach to 1 quart water).



J Food Prot. 2003;66:1893-1899.

Separate

- Avoid Contaminating Food
- Avoid Contaminating the Home Environment



Cook

- Cook Foods Adequately



Food Safety at Home

COOK

- The only accurate way to determine if most foods are cooked to safe temperatures is to use a food thermometer.
- Use a clean food thermometer to make sure meat, poultry, casseroles and other foods are properly cooked all the way through.
- Cook roasts and steaks to at least 145° F (63°C) and poultry to at least 165° F (74°C)



Food Safety at Home

COOK

- Cook ground beef to at least 160°F (71°C).
- Cook eggs until yolk and white are firm.
- Fish should be opaque and flake easily with a fork.



JADA 2001;101:1326-1332,1337-1339

Chill

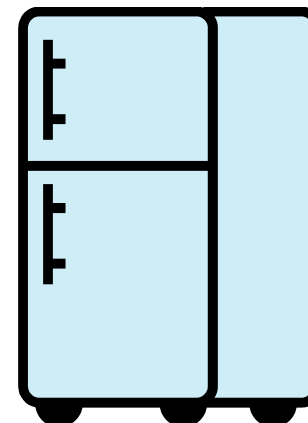
- Keep Freezer at 0 °F (-18°C) or Lower
- Keep Refrigerator at 35 °F to 40 °F (2°-4°C)



Food Safety at Home

CHILL

- Refrigerate or freeze perishables, prepared food and leftovers within 2 hours of preparation.
- Divide large amounts of leftovers into shallow containers for quick cooling in the refrigerator.
- Use a thermometer to make sure refrigerator is 35-40°F (2°-4°C).



JADA 2001;101:1326-1332,1337-1339.

For More Information

- USDA/FDA Foodborne Illness Education Information Center
www.nal.usda.gov/foodborne/index.html
- Government Food Safety Information www.foodsafety.gov
- Centers for Disease Control and Prevention www.cdc.gov/foodsafety
- The FDA Hotline: 1-SAFEFOOD (723-3366)
- The USDA Meat and Poultry Hotline: 1-800-535-4555
- *Listeria* Central: <http://www.listeriacentral.org/>
- CSU and OSU Extension Food Safety Resources:
<http://www.ext.colostate.edu/pubs/foodnut/consumer.html>
<http://foodsafety.osu.edu>

Medication Safety

- Medication incidents and errors occur.
- Examples:
 - Your medication container from the pharmacy contains the wrong medication
 - You take the same medication twice in the same day by accident
 - You are given too much of a medication while in hospital
 - You receive a medication that you know you are allergic to

Medication Safety

- Know your medications
- Know the “5” rights
 - name
 - medication name (generic and/or brand)
 - dose (amount)
 - time of day to be taken
 - route (by mouth, onto skin, etc.)

Medication Safety

- Know your disease and the medications associated with it...
 - What is my health problem?
 - What do I need to do?
 - Why do I need to do this?



Medication Safety

- **Communication**
 - Asking questions to increase knowledge
 - Talking to your healthcare providers
 - Keeping an updated medicine list
- **Using one pharmacy for all prescription medicines**
- **Medicine Review**
 - Check your prescription prior to taking
 - Have all medicines reviewed at least annually

Medication Safety

- The information sheet you get with your prescription medicine contains useful information to help you get the best results and avoid problems. **Read it carefully**
- The information sheet tells you:
 - What the medicine is used for
 - How to take your medicine correctly
 - What side effects to watch for and what to do if they occur
 - Warnings and Precautions
 - Storage

Medication Safety

- 1. Risk** - All medicines (prescription & nonprescription) have *risks* as well as benefits; and you need to weigh these risks and benefits carefully for every medicine you take.
- 2. Respect** – *Respect* the power of your medicine and the value of medicines properly used.
- 3. Responsibility** - Take *responsibility* for learning about how to take your medicine safely.

Summary

- Questions or Comments

