STUDENT HOUSING FIRE SAFETY

University of Colorado Denver | Anschutz Medical Campus does not own nor operate any occupancies used by students; however, in the interest of the safety of our students, we do offer this guidance note devoted to fire safety in student-type housing.

INTERNET RESOURCES

1. GOVERNMENT SITES: Aside from the information found in this document, you may wish to check these government websites for further information:
   - United States Fire Administration at http://www.usfa.fema.gov/safety/atrisk/campus/cfs/
   - Fire Safety 101 at http://www.firesafety.gov/

Note: The government link below relates to on-campus student housing, but it is worth taking a look: http://www.usia.fema.gov/downloads/pdf/publications/fa-280.pdf

2. NON-PROFIT SITES: The following sites are non-profit entities, not associated with the government. As non-profit companies, the documents they distribute (for a fee) have copyrights, and are therefore not available for us to directly reproduce. Regardless, these are valuable resources and we do list their websites:
   - The Center for Campus Fire Safety at http://www.campusfire.org/
   - The National Fire Prevention Association (NFPA) at http://www.nfpa.org

3. University of Colorado Denver | Anschutz Medical Campus FIRE & LIFE SAFETY SITE:
   http://www.ucdenver.edu/about/departments/FacilitiesManagement/FireLifeSafety/Pages/default.aspx

You may also want to use your internet search-engine to find thousands of websites with fire safety information, including some commercial sites with downloadable safety tips.

Fire Safety Guidance Notes are produced by the CU Denver Fire & Life Safety section of Facilities Management.
HOME FIRE SAFETY

We offer the following basic advice for fire safety in any home:

**Your ability to get out may depend on the warning from smoke alarms and on advanced planning.**

- Make a plan.
  - Walk through your home and inspect all possible exits and escape routes. When you walk through your plan, check to make sure the escape routes are clear and that doors and windows can be opened easily. If windows or doors in your home have security bars, make sure that the bars have quick-release mechanisms inside so that they can be opened immediately in an emergency. Quick-release mechanisms won't compromise your security - but they will increase your chances of safely escaping a fire.
  
  - If you live in a dormitory or apartment building, learn all possible exit pathways. If you find exits blocked or otherwise compromised, report the condition immediately to the property representatives.

- Make sure that you have at least one smoke alarm on every level of your home (and most authorities recommend one in every bedroom).
  - See section on Detectors, below
  
  - Fire sprinkler systems greatly increase the chance that the fire will be quickly extinguished or suppressed. Consider the advantages of renting full-sprinklered apartments or student-type housing.

- Choose an outside meeting place where everyone should gather after evacuation.

- If there are persons with mobility limitations have someone assigned to assist them in the event of an emergency.

- When staying overnight at other people's homes, or at dorms, take a few moments to learn the escape routes.

- Be fully prepared for a real fire: when a smoke alarm sounds, get out immediately.
  
  - Residents of high-rise and apartment buildings may be safer "defending in place," but only if escape pathways are not viable.

  - Once you're out, stay out! Under no circumstances should you ever go back into a burning building. If someone is missing, inform the fire department dispatcher when you call. Firefighters have the skills and equipment to perform rescues.
GENERAL FIRE SAFETY

For most fires to occur, three things must come together in the correct proportions:

♦ Fuel
♦ Oxygen
♦ An ignition source

If these elements are combined, we have the uninhibited chemical chain reaction we know as “fire.” Limiting the quantities of material that burn (fuel) will limit the size and scope of the fire; however, since fuels are found in most areas (in one form or another), if we are to completely prevent a fire we must prevent ignition.

The four common sources of ignition are:

♦ Thermal (something that is already hot)— Many devices produce heat, such as burning candles, torches, matches, hot plates, and other items that are hot enough to start fires. Keep these heat sources away from material that could be ignited.
♦ Electrical – Electrical arcing is much hotter than most people realize. Normal 110-volt current, when arced, produces temperatures of at least 6000°F. Check for overloaded wiring, frayed electrical cords, and other unsafe electrical components.
♦ Mechanical – Such things as sparks from compressor motors, friction, and compression may produce sufficient heat for a fire to occur. Use care when locating mechanical devices near locations where flammable and combustible material is stored.
♦ Chemical – Chemical reactions often produce enough heat to start other materials on fire. (Note that an explosion can occur if highly incompatible materials are mixed.) Segregate and control materials that are reactive with each other.

Keys to preventing or limiting a fire: eliminate/control ignition sources, and limit and properly store combustibles. Especially take care to control flammable liquids, which greatly accelerate a fire. Only keep on-hand the quantities of flammable liquids necessary for routine use.

FIRE / EMERGENCY ACTIONS (A-RACE)

Should a fire occur in your area, there are several actions you should take:

Alert—notify others in the immediate area
Rescue—Assist injured or disabled out of area, only if you are able to do this without endangering yourself
Activate—Pull fire alarm pull box, if available
Contain—Close doors as you exit the area
Evacuate—Follow exit signs to the shortest or safest route to safety, then dial 9-1-1 from a safe location (such as a neighbors’ house). ONCE YOU ARE OUT, STAY OUT!!

Know your alternate routes of escape, in the event the normal route is blocked by heat or smoke. Remember that most fire deaths are a result of smoke and toxic gas inhalation (carbon monoxide and other products of combustion). Crawl low if necessary, and get out fast.
Should your clothes or hair catch fire, STOP, DROP, and ROLL. Running will fan the flames, so stop. Dropping and rolling will help to smother the fire. Continue to roll until the fire is out, and then find water to stop any further burning. Seek medical attention for burns.

EXTINGUISHER RULES TO LIVE BY

Fire extinguishers are intended to be used immediately, before the fire becomes larger. Use a hand-held extinguisher ONLY if it is safe to do so, and you have adequate training. If you decide to use an extinguisher, you must first understand what it can and cannot do for you. Take fire safety classes, and consider the following:

1. Know what is burning
2. Use the correct fire extinguisher
3. Understand the use and limitations of the extinguisher
4. Use extinguishers on small fires only (incipient stage)
5. ALWAYS have an ESCAPE PATH behind you

FIRE EXTINGUISHER CLASSIFICATIONS

<table>
<thead>
<tr>
<th>Class</th>
<th>Description</th>
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<tbody>
<tr>
<td>A</td>
<td>Ordinary combustibles (wood, paper, rubber, plastic)</td>
</tr>
<tr>
<td>B</td>
<td>Flammable liquids and gases, and most greases</td>
</tr>
<tr>
<td>C</td>
<td>Energized electrical (Note: it is best to shut off the power and then use an extinguisher)</td>
</tr>
</tbody>
</table>

Two other classifications exist, however they are not in general use in homes:

D     | Combustible metals
K     | Kitchen (commercial kitchens with deep fat fryers--new classification as of 1998)

(Never “test” a fire extinguisher—the expellant gas will leak out within a few weeks.)
FIRE EXtinguisher USE:

To use an extinguisher, use the PASS system:

- Pull the pin
- Aim the nozzle
- Squeeze the handle
- Sweep at the base of flames

SMOKE DETECTORS

So called "smoke detectors" are really "particulate detectors," in that they are set to alarm if a certain amount of particulate matter enters the detection chamber of the device. Because of this, smoke detectors often alarm when dust, steam, or other small particles are airborne.

There are several different types of home detectors, and they are available at most retail stores.

- **Photoelectric detectors** are better at detecting *smoky* fires, such as early fires from a burning couch. Photoelectric Detectors work by containing a light source (like a small light bulb) and they have a photocell that is activated by light. Usually, the light never reaches the photocell, however, when smoke fills the smoke detector, the smoke reflects the light towards the photocell, and the photocell then triggers the alarm.

- **Ionization detectors** are better at detecting *open-flame* fires, such as those that do not smolder much prior to full flame. Ionization Detectors work by forming an electrical path inside the smoke detector with a very small amount of radioactive material. When smoke enters the detector, the smoke molecules attach themselves to the ions and change the electrical current. This change in current triggers the alarm.

Both of these types of smoke detectors will detect smoke in the air, and both types of smoke detectors must pass the same test in order to be certified through Underwriter's Laboratory (UL). Consult the owner's manual of the detector for information as to best locations for detectors.

QUESTIONS / COMMENTS?

Check the Facilities Operations website-- [http://www.ucdenver.edu/admin/facilities/firesafety/](http://www.ucdenver.edu/admin/facilities/firesafety/) --for other fire safety information, including Campus Fire Safety Policies, Campus Fire Alarm Reports, and Guidance Notes.

Also, feel free to contact the campus Fire & Life Safety Officer at 303 724-0293.

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