



THE FIRE LINE

Fond du Lac Fire/Rescue Monthly Newsletter

December, 2019 Edition

FROM THE BALCONY

A message from Chief Peter O'Leary



Recently two of our members were recognized by the Wisconsin Fire Inspectors' Association for their commitment to reducing public risk to fire through prevention, education and enforcement. Division Chief Troy Haase was elected by his peers to the Second Vice President's position while Lieutenant Jason Roberts was awarded the Public Educator of the Year.



For several years Lt. Roberts has been active locally and throughout the state with a special emphasis on counseling our youth who find themselves using fire in an unsafe manner. For anyone who has worked counseling children who exhibit fire setting behavior we know how delicate and complex the sessions can be. Lt. Roberts has become well known in this field and he continues to keep the bar high and outcomes positive for kids and their families. Jason's commitment to fire safety education made him an excellent choice for the award.

Division Chief Haase was last year's Fire Inspector of the Year and this year his peers nominated and elected him to the second vice-president role. DC Haase's commitment to fire safety education, fire code enforcement and fire investigation has demonstrated to others in the state his level of dedication, commitment and desire to keep our community safe. I trust DC Haase will continue that passion and commitment as he works on a statewide level to ensure our safety with strict codes that protect the public AND firefighters.



I am sure if you ask, both Troy and Jason will give any credit or accolades back to the members of our agency. DC Haase and Lt. Roberts display the type of leadership and commitment we have come to expect at Fond du Lac Fire Rescue. I know you will join me in congratulating these two fine fire safety professionals on their accomplishments. Congratulations once again!

*Until Next Month,
Stay Safe and Be Well.*

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UPCOMING EVENTS

- Prehospital Trauma Life Support (PHTLS) Course
December 3, 4, 5
- Holiday Parade of Lights
December 7th 4:15pm
- Theda Star Presentations
December 9, 11, 12



FOND DU LAC FIRE RESCUE OPERATIONS

By: Assistant Chief Erick Gerritson



Cold Weather Operations

The older we get, the less we enjoy cold weather operations. However, cold weather is inevitable. Thus, we offer some cold weather tips for engine company operations.

PERSONAL PREPARATION

Personal preparation is imperative. You have to find the happy medium between wearing enough clothes in the firehouse to stay warm yet not too many clothes that cause you to overheat when you have your turnout gear on and are exerting yourself at a fire. Being sweaty and cold is just as miserable as being wet and cold from the hose line.

For operations that require multiple rotations into the building, it is your preference whether to allow your gear to thaw. We always prefer allowing the ice to remain on the exterior of our fire clothes rather than allowing it to melt and soak through. We may be crazy, but it seems warmer and less miserable that way. When returning to quarters, change out your turnout gear and into your second set. Before you go home, take your fire clothes apart and arrange for them to dry, so by the time you return for your next shift your gear will be ready to use.



APPARATUS

The apparatus will also need some additional attention during cold weather: If you are going to wash the apparatus, make sure you dry it thoroughly. Doors and discharges will freeze. Be careful not to wash down the discharges and intakes, making the caps nearly impossible to remove. Bleed the moisture from the air reservoirs daily; open the air bleeder valves until you remove all moisture. Make sure the heating system works before the worst of the cold weather sets in. If you have leaky valves that allow water to lay in the discharge lines, get them fixed so they don't freeze. Drain the pump in quarters as well as all intakes, drains, and valves. This will require the driver to open the tank-to-pump valve when charging a line to prime the pump. The pump primer may also need to be activated to expel all air from the pump.

RESPONSE

Company officers will need to be vigilant to ensure the water supply will not be interrupted during cold weather. Uncover hydrants after large snowstorms. Snowplows are notorious for throwing snow and covering the hydrants. Get out and drive your district and dig them out. You may have to do this multiple times a day for several days in a row.

Most everything slows down in the cold—our response is no different. The only thing that doesn't slowdown is the fire. Adding an engine to the initial structure fire dispatch may be a good idea, even if you turn it around most of the time. When you need it on the scene, you will be happy you had the foresight to start it early. Call for additional alarms earlier in extreme weather, especially the winter. The fire will not cut you any slack just because the roads are icy and slick. The most basic tasks can become extremely difficult with a few inches of snow on the ground.

FOND DU LAC FIRE RESCUE OPERATIONS

By: Assistant Chief Erick Gerritson



Cold Weather Operations, continued...

Securing a water supply may present an issue. Just finding a hydrant may be difficult if you haven't unburied your hydrants. The firefighter connecting to the hydrant should be equipped with a shovel and a pickax to make the connection. Stretching the attack line will be more difficult in slippery conditions. You may not be able to ideally position the apparatus because of snow accumulation, and it may require a longer stretch. This is another good reason to add an engine to the response to assist with the longer stretch.

Once the fire has been extinguished, you need to keep the water moving to prevent it from freezing in the hose line. You can accomplish this by cracking the nozzle to keep the water moving in the hose and through the pump. Occasionally, hose lines may become frozen. You can place frozen sections of hose in the bed of a ladder truck and return to quarters. You can thaw frozen couplings on the scene using the exhaust from the apparatus. (This works for self-contained breathing apparatus couplings as well.)



Be prepared for fire suppression systems to be ineffective because of freezing or broken pipes because of freezing in the system. Also, be prepared to perform alternative stretches in standpipe-equipped buildings if this problem presents itself.

BE PREPARED

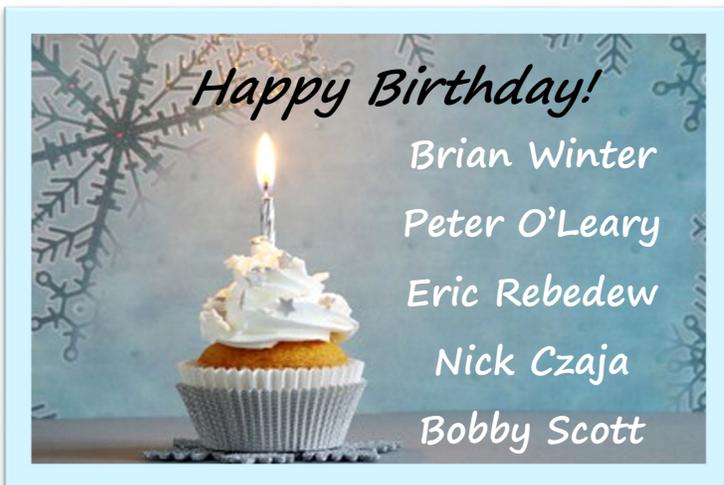
Prepare and be proactive for cold weather operations. Find your happy place between too cold and too warm until it is just right in your fire clothes. Pay extra attention to the apparatus, and keep the hydrants in your district accessible and in service.

Source: FireRescue.com, Mike Kirby and Tom Lakamp

Until next month...Stay Safe and toasty!!!

OPERATIONS BY THE NUMBERS

OCTOBER, 2019	THIS MONTH		YEAR-TO-DATE	
PREVENTION	Last Year	This Year	Last Year	This Year
Total Inspections	264	181	2,555	2,590
Total Defects	180	116	1,751	1,586
SUPPRESSION				
Alarms Involving Fire	8	7	117	96
Fire Mutual Aid Given	4	1	15	10
Fire Mutual Aid Received	0	0	0	1
Service/Good Intent Calls	38	43	471	439
False Alarms & False Calls	32	45	263	339
Other Calls	15	23	139	162
Total Fire Alarms & Calls	93	118	990	1,036
EMS				
Total Ambulance Calls	516	577	5,068	5,274
Total Fire & Ems Responses	612	695	6,058	6,310
Fire Property Loss	\$500.00	\$10,600.00	\$369,665.00	\$416,918.00
Fire Contents Loss	\$0.00	\$1,000.00	\$144,260.00	\$194,696.00
Engine Assisted EMS Calls	212	281	2,136	2,334



at City of
 Fond du Lac Fire/Rescue



at fdlfire



The Code Summary

*By: Todd Janquart
Assistant Chief of EMS*

High-tech Rivals Pose a Threat to Iconic Stethoscope

Dr. Eric Topol, a world-renowned cardiologist, considers the stethoscope obsolete, nothing more than a pair of "rubber tubes".

CHICAGO — Two centuries after its invention, the stethoscope — the very symbol of the medical profession — is facing an uncertain prognosis.

It is threatened by hand-held devices that are also pressed against the chest but rely on ultrasound technology, artificial intelligence and smartphone apps instead of doctors' ears to help detect leaks, murmurs, abnormal rhythms and other problems in the heart, lungs and elsewhere. Some of these instruments can yield images of the beating heart or create electrocardiogram graphs.

Dr. Eric Topol, a world-renowned cardiologist, considers the stethoscope obsolete, nothing more than a pair of "rubber tubes." It "was OK for 200 years," Topol said. But "we need to go beyond that. We can do better."

In a longstanding tradition, nearly every U.S. medical school presents incoming students with a white coat and stethoscope to launch their careers. It's more than symbolic — stethoscope skills are still taught, and proficiency is required for doctors to get their licenses.

Over the last decade, though, the tech industry has downsized ultrasound scanners into devices resembling TV remotes. It has also created digital stethoscopes that can be paired with smartphones to create moving pictures and readouts.



Proponents say these devices are nearly as easy to use as stethoscopes and allow doctors to watch the body in motion and actually see things such as leaky valves. "There's no reason you would listen to sounds when you can see everything," Topol said.

At many medical schools, it's the newer devices that really get students' hearts pumping.

"Wow!" "Whoa!" "This is awesome," Indiana University medical students exclaimed in a recent class as they learned how to use a hand-held ultrasound device on a classmate, watching images of his lub-dubbing heart on a tablet screen.

The Butterfly iQ device, made by Guilford, Connecticut-based Butterfly Network Inc., went on the market last year. An update will include artificial intelligence to help users position the probe and interpret the images.

Students at the Indianapolis-based medical school, one of the nation's largest, learn stethoscope skills but also get training in hand-held ultrasound in a program launched there last year by Dr. Paul Wallach, an executive associate dean. He created a similar program five years ago at the Medical College of Georgia and predicts that within the next decade, hand-held ultrasound devices will become part of the routine physical exam, just like the reflex hammer.

The devices advance "our ability to take peek under the skin into the body," he said. But Wallach added that, unlike some of his colleagues, he isn't ready to declare the stethoscope dead. He envisions the next generation of physicians wearing "a stethoscope around the neck and an ultrasound in the pocket."



The Code Summary

By: *Todd Janquart*
Assistant Chief of EMS

High-tech Rivals Pose a Threat to Iconic Stethoscope, continued...

Modern-day stethoscopes bear little resemblance to the first stethoscope, invented in the early 1800s by Frenchman Rene Laennec, but they work essentially the same way.

Laennec's creation was a hollow tube of wood, almost a foot long, that made it easier to hear heart and lung sounds than pressing an ear against the chest. Rubber tubes, earpieces and the often cold metal attachment that is placed against the chest came later, helping to amplify the sounds.

When the stethoscope is pressed against the body, sound waves make the diaphragm — the flat metal disc part of the device — and the bell-shaped underside vibrate. That channels the sound waves up through the tubes to the ears. Conventional stethoscopes typically cost under \$200, compared with at least a few thousand dollars for some of the high-tech devices.



But picking up and interpreting body sounds is subjective and requires a sensitive ear — and a trained one.

With medical advances and competing devices over the past few decades, "the old stethoscope is kind of falling on hard times in terms of rigorous training," said Dr. James Thomas, a cardiologist at Northwestern Medicine in Chicago. "Some recent studies have shown that graduates in internal medicine and emergency medicine may miss as many of half of murmurs using a stethoscope."



Northwestern is involved in testing new technology created by Eko, a Berkeley, California-based maker of smart stethoscopes. To improve detection of heart murmurs, Eko is developing artificial intelligence algorithms for its devices, using recordings of thousands of heartbeats. The devices produce a screen message telling the doctor whether the heart sounds are normal or if murmurs are present.

Dennis Callinan, a retired Chicago city employee with heart disease, is among the study participants. At age 70, he has had plenty of stethoscope exams but said he feels no nostalgia for the devices.

"If they can get a better reading using the new technology, great," Callinan said.

Chicago pediatrician Dr. Dave Drelicharz has been in practice for just over a decade and knows the allure of newer devices. But until the price comes down, the old stalwart "is still your best tool," Drelicharz said. Once you learn to use the stethoscope, he said, it "becomes second nature."

"During my work hours in my office, if I don't have it around my shoulders," he said, "it's as though I was feeling almost naked."

Author Lindsey Tanner from October 24th, 2019 online edition of EMSWorld.com.

*You build on failure. You use it as a stepping stone. Close the door on the past.
You don't try to forget the mistakes, but you don't dwell on it.
You don't let it have any of your energy, or any of your time, or any of your space.*

Johnny Cash

News from the Station

November marked a busy month for Pinning Ceremonies at Fire/Rescue. Three members successfully completed their probationary periods and were sworn in to the Department. Police and Fire Commissioner Cathy Zimmerman, City Council President Brian Kolstad, Council Member Karyn Merkel and City Manager Joe Moore were in attendance at the ceremonies.



Congratulations to **Firefighter/Paramedic Max Blitzke** who successfully completed his probationary requirements and was sworn in by City Clerk Maggie Hefter. Retired FDLFR Engineer Luke Blitzke (Max's dad) pinned the badge on his son. Max's wife Lindsey and several other family members were in attendance as he took the Oath of Office.



Congratulations to **Firefighter/Paramedic Zachary Mueller** who successfully completed his probationary requirements and was sworn in by City Clerk Maggie Hefter. Zack's wife Jessica pinned the badge. Zach and Jessica's daughter and several other family members were on hand to congratulate Zach on his achievement.



Congratulations to **Firefighter/Paramedic Connor Knaus** who was recently sworn in by City Clerk Maggie Hefter as a fulltime member of FDLFR after completing his year long probation. Connor was pinned by his Mom, Lorie. His Dad and girlfriend were also in attendance as Connor took the Oath of Office.

**Well trained people
are the best defense
against fire.**

By: James Knowles III
Assistant Chief Training/Safety

The Facts about Chimney Fires

Your chimney - and the flue that lines it - adds architectural interest to your home, but its' real function is to carry dangerous flue gases from your fireplace, wood stove or furnace safely out of your home.

As you relax in front of your fireplace or bask in the warmth of your wood stove, the last thing you are likely to be thinking about is the condition of your chimney. However, if you don't give some thought to it before you light those winter fires, your enjoyment may be very short-lived.

Dirty chimneys can cause chimney fires, which damage structures, destroy homes and injure or kill people.

Indications of a chimney fire have been described as creating:

- loud cracking and popping noise
- a lot of dense smoke, and
- an intense, hot smell

Chimney fires can burn explosively – noisy and dramatic enough to be detected by neighbors or people passing by. Flames or dense smoke may shoot from the top of the chimney. Homeowners report being startled by a low rumbling sound that reminds them of a freight train or a low flying airplane. However, those are only the chimney fires you know about.

The Majority of Chimney Fires Go Undetected

Slow-burning chimney fires don't get enough air or have fuel to be dramatic or visible and they often go undetected until a later chimney inspection, but, the temperatures they reach are very high and can cause as much damage to the chimney structure – and nearby combustible parts of the house – as their more spectacular cousins.

Creosote & Chimney Fires: What You Must Know

Fireplaces and wood stoves are designed to safely contain wood-fuel fires, while providing heat for a home. The chimneys that serve them have the job of expelling the by-products of combustion – the substances produced when wood burns. These include smoke, water vapor, gases, unburned wood particles, hydrocarbon, tar fog and assorted minerals. As these substances exit the fireplace or wood stove, and flow up into the relatively cooler chimney, condensation occurs. The resulting residue that sticks to the inner walls of the chimney is called creosote.

Creosote is a black or brown residue that can be crusty and flaky...tar-like, drippy and sticky...or shiny and hardened. All forms are highly combustible. If it builds up in sufficient quantities – and the internal flue temperature is high enough – the result could be a chimney fire.

Conditions that encourage the buildup of creosote:

- restricted air supply
- unseasoned wood
- cooler than normal chimney temperatures

Air supply may be restricted by closing the glass doors, by failing to open the damper wide enough, and the lack of sufficient make-up air to move heated smoke up the chimney rapidly (the longer the smoke's "residence time" in the flue, the more likely is it that creosote will form). A wood stove's air supply can be limited by closing down the stove damper or air inlets too soon or too much. Burning unseasoned wood – because so much energy is used initially just to drive off the water trapped in the cells of the logs– keeps the resulting smoke cooler, than if seasoned wood is used. In the case of wood stoves, overloading the firebox with wood in an attempt to get a longer burn time also contributes to creosote buildup.



Well trained people
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against fire.

By: James Knowles III
Assistant Chief Training/Safety

The Facts about Chimney Fires, continued...



Masonry Chimneys

When a chimney fire occurs in a masonry chimney – whether the flue is an older, unlined type or tile lined to meet current safety codes – the high temperatures at which they burn (around 2000°F) can “melt mortar, crack tiles, cause liners to collapse and damage the outer masonry material”. Most often, thermal shock occurs and tiles crack and mortar is displaced, which provides a pathway for flames to reach the combustible wood frame of the house. This event is extremely dangerous.

Prefabricated, factory-built, metal chimneys

To be installed in most jurisdictions in the United States, factory built, metal chimneys that are designed to vent wood burning stoves or prefabricated metal fireplaces must pass special tests. Most tests require the chimney to withstand flue temperatures up to 2100°F – without sustaining damage. Under chimney fire conditions, damage to these systems still may occur. When prefabricated, factory-built metal chimneys are damaged by a chimney fire, they should no longer be used and must be replaced.

Special Effects on Wood Stoves

Wood stoves are made to contain hot fires. The connector pipes that run from the stove to the chimney are another matter. They cannot withstand the high temperatures produced during a chimney fire and can warp, buckle and even separate from the vibrations created by air turbulence during a fire. If damaged by a chimney fire, they must be replaced.

Nine Signs that You've Had a Chimney Fire

Since a chimney, damaged by a chimney fire, can endanger a home and its' occupants and a chimney fire can occur without anyone being aware of them it's important to have your chimney regularly inspected by a CSIA Certified Chimney Sweep. Here are the signs that a professional chimney sweep looks for:

- “Puffy” or “honey combed” creosote
- Warped metal of the damper, metal smoke chamber connector pipe or factory-built metal chimney
- Cracked or collapsed flue tiles, or tiles with large chunks missing
- Discolored and/or distorted rain cap
- Heat-damaged TV antenna attached to the chimney
- Creosote flakes and pieces found on the roof or ground
- Roofing material damaged from hot creosote
- Cracks in exterior masonry
- Evidence of smoke escaping through mortar joints of masonry or tile liners

If you think a chimney fire has occurred, call a CSIA Certified Chimney Sweep for a professional evaluation. If your suspicions are confirmed, a certified sweep will be able to make recommendations about how to bring the system back into compliance with safety standards. Depending on the situation, you might need a few flue tiles replaced, a new liner system installed or an entire chimney rebuilt. Each situation is unique and will dictate its own solution.

Proper Maintenance

Clean chimneys don't catch fire. Make sure a CSIA Certified Chimney Sweep® inspects your solid fuel venting system annually, and sweeps and repairs it whenever needed. Your sweep may have other maintenance recommendations depending on how you use your fireplace or stove. CSIA recommends that you call on CSIA Certified Chimney Sweeps®, since they are regularly tested on their understanding of the complexities of chimney and venting systems.

Source: *Chimney Safety Institute of America. The facts about chimney fires.*
Retrieved from: <https://www.csia.org/chimneyfires.html>

FIRE PREVENTION

That's what it's all about!

**By: Troy Haase
Division Chief of Fire Prevention**



Current Status of New Construction

- Fond du Lac County Garage at 1820 S. Hickory Street- Buildings are under construction.
- Mercury Marine Plant 17 at 545 W. Pioneer Road- Building is under construction.
- Mercury Marine Plant 98 Addition at 545 W. Pioneer Road- Building is under construction.
- Lenz Truck Center at 536 Seymour Street- Building is under construction.
- Eilertson Electric at 920 Willow Lawn Road- Buildings are under construction.
- Fairfield Inn at 935 S. Rolling Meadows Drive- Building is under construction.
- Riviera Maya at 609 West Johnson Street- Building is under construction.
- Ducharme Cottages at 100-400 Ducharme Parkway- Buildings are under construction.
- River Hills Mixed Use Development on S. Main Street- Buildings 1, 2, 3, 4, 5 & 8 are complete and 6 & 7 are under construction.



FIRE PREVENTION

That's what it's all about!

**By: Troy Haase
Division Chief of Fire Prevention**



Holiday Fire-Safety Tips

As the holidays approach, the U.S. Consumer Product Safety Commission (CPSC) is urging people to look for and eliminate potential dangers from holiday lights and decorations that could lead to fires and injuries.

Each year, hospital emergency rooms treat thousands of people for injuries, such as falls, cuts, and shocks related to holiday lights, decorations, and Christmas trees. In addition, Christmas trees are involved in hundreds of fires each year, resulting in deaths, injuries, and property loss and damage.

Electrical distribution or lighting equipment was involved in more than two of every five (44%) home Christmas tree fires. Two of every five (39%) home Christmas tree fires started in the living room. Five percent were chimney or flue fires. One-fifth (21%) of the decoration fires started in the kitchen. Sixteen percent started in the living room, family room or den. Almost three of every five (57%) December home decoration fires were started by candles, compared to one-third (32%) in January to November.



Keep your family safe this holiday season by following these safety tips.

Trees

- When purchasing an artificial tree, look for the label "Fire Resistant." Although this label does not mean the tree will not catch fire, it does indicate the tree will resist burning and should extinguish quickly.
- When purchasing a live tree, check for freshness. A fresh tree is green; needles are hard to pull from branches and when bent between your fingers, needles do not break. The trunk butt of a fresh tree is sticky with resin, and when tapped on the ground, the tree should not lose many needles.
- When setting up a tree at home, place it away from fireplaces and radiators. Because heated rooms dry live trees out rapidly, be sure to keep the stand filled with water. Place the tree out of the way of foot traffic and do not block doorways.

Lights

- Indoors or outside, only use lights that have been tested for safety by a recognized testing laboratory, which indicates conformance with safety standards.
- Check each set of lights, new or old, for broken or cracked sockets, frayed or bare wires, or loose connections, and throw out damaged sets.
- Use no more than three standard-size sets of lights per single extension cord.
- Never use electric lights on a metallic tree. The tree can become charged with electricity from faulty lights, and a person touching a branch could be electrocuted.
- Fasten outdoor lights securely to trees, house walls, or other firm supports to protect the lights from wind damage. Use only insulated staples, not nails or tacks, to hold strings in place.
- Turn off all lights when you go to bed or leave the house. The lights could short out and start a fire.
- For added electric-shock protection, plug outdoor electric lights and decorations into circuits protected by ground fault circuit interrupters (GFCIs). Portable outdoor GFCIs can be purchased where electrical supplies are sold. GFCIs can be installed permanently to household circuits by a qualified electrician.

FIRE PREVENTION

That's what it's all about!

By: Troy Haase
Division Chief of Fire Prevention



Holiday Fire-Safety Tips, continued...

Decorations

- Use only non-combustible or flame-resistant materials to trim a tree. Choose tinsel or artificial icicles of plastic or nonleaded metals. Leaded materials are hazardous if ingested by children.
- Never use lighted candles on a tree or near other evergreens. Always use non-flammable holders, and place candles where they will not be knocked down.
- In homes with small children, take special care to avoid decorations that are sharp or breakable, keep trimmings with small removable parts out of the reach of children to avoid the child swallowing or inhaling small pieces, and avoid trimmings that resemble candy or food that may tempt a child to eat them.
- Wear gloves to avoid eye and skin irritation while decorating with spun glass "angel hair." Follow container directions carefully to avoid lung irritation while decorating with artificial snow sprays.



Fireplaces

- Do not remove fireplace embers or ash, or if you do, place them in a metal container with a lid and cover them with water. Do not place them in a plastic or paper bag or other container that is not fire-resistant. Do not dispose of them indoors or close to your home or another structure.
- Use care with "fire salts," which produce colored flames when thrown on wood fires. They contain heavy metals that can cause intense gastrointestinal irritation and vomiting if eaten. Keep them away from children.
- Do not burn wrapping papers in the fireplace. A flash fire may result as wrappings ignite suddenly and burn intensely.

Source: <https://www.familyeducation.com/>, "Holiday Fire Safety Tips., Web November 13, 2019.



Put a **FREEZE** on Winter Holiday Fires

It's fun to decorate for the winter holidays, but holiday decorations can increase your risk for a home fire. As you deck the halls this season, be fire smart.



More than **half** of the home decoration fires in December are started by candles



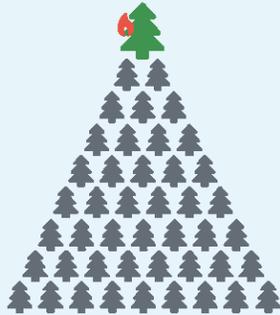
More than **1/3** of home decoration fires are started by candles.



The top 3 days for home candle fires are **Christmas Day, New Year's Day** and **New Year's Eve**.

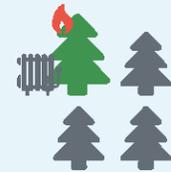


Keep candles at least **12 inches** away from anything that burns.



Although Christmas tree fires are not common, when they do occur, they are dangerous.

On average, **1 of every 45** reported home Christmas tree fires resulted in death.



A heat source too close to the Christmas tree causes **1 in every 4** winter fires.



Read manufacturer's instructions for the number of light strands to connect.



Make sure your tree is **at least 3 feet away** from heat sources like fireplaces, radiators, space heaters, candles or heat vents. Also, make sure your tree does not block exits.



Get rid of your tree after Christmas or when it is dry.



For more information on how to prevent winter fires, visit www.usfa.fema.gov/winter and www.nfpa.org/winter.

PEER FITNESS TIPS

By: Peer Fitness Trainer
Jack Prall

Carbohydrates: Why Are They So Confusing, continued...

What about sugar “crashes”?

- The most common reason for “sugar crashes” (hypoglycemia) among athletes relates to running out of fuel. The shakiness and sweats are because the athlete did not eat enough food to maintain normal blood glucose levels and the brain is now demanding sugar. One marathoner, who thought the 100-calorie gel he consumed at mile 16 caused him to “crash,” more likely needed 200 to 300 calories to meet his energy needs.
- A sharp rise in blood sugar that may occur after eating sugary foods is not pathological, and has more to do with the efficiency of the muscles and liver in their ability to take up the sugar. Exercise enhances the transport of sugar from your blood into your muscles with far less insulin than needed by the body of a person who is physically inactive.

Summary

For physically active, fit people who are at lower risk for heart disease, diabetes and obesity, sugar and carbs are not toxic, and may be a helpful way to enhance athletic performance. The one-size-diet does not fit all.

No one is suggesting that you should eat more sugar, but rather understand that athletes and people who are regularly physically active can embrace a way of eating that includes an appropriate balance of carbohydrate (sugars and starches) in each meal. Strive for a healthy eating pattern that includes 85-90% quality foods and 10-15% *whatever*. Some days, *whatever* might be an apple; other days, it might be a slice of apple pie.



Author: Nancy Clark, acefitness.org