



# AviationHealth ASSOCIATION **AVIATION MEDICAL** BULLETIN™

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### WHEN TO CALL AN AMBULANCE

- If someone is having symptoms of a heart attack.
- If there is severe bleeding or blood loss. Is a wound still bleeding after applying direct pressure for 15 minutes?
- The person is unconscious or having difficulty breathing.
- A seizure has lasted more than five minutes.
- You suspect a spinal or neck injury.
- The condition could become life-threatening on the way to the hospital.
- Moving the person requires a paramedic or emergency equipment.
- Distance or traffic would cause a delay in getting to a hospital.

### 5 STEPS TO QUIT SMOKING



So, you've decided to quit smoking, vaping or using any form of tobacco. Great! It's one of the best things you can do to improve your health and add years to your life. It's not easy — but you can do it. You're more likely to quit for good if you prepare for the cravings, urges and feelings that come with quitting. Remember, nicotine is a highly addictive chemical, and your body will need to get used to being without it again.

Get ready to stop smoking and vaping for good with these five steps — just remember to take it one step at a time:

#### 1. Set your "Quit Day" and take a No Smoking or Vaping pledge.

Choose a date within the next seven days when you'll stop using tobacco products — that's now your "Quit Day." Make a pledge or commitment in front of people who will support you on your path to quitting. Use the time until your Quit Day to prepare and to gradually cut down on the number of cigarettes you smoke or how much you vape or use other tobacco products.

**Take the pledge:** "I promise to not smoke or use any tobacco products after my Quit Day. I know it is a serious danger to my (and my family's) health. I will also try to stay away from secondhand smoke and encourage and support others to quit smoking and using tobacco products."

## 2. Choose your method for quitting.

There are three ways to quit smoking. You can choose one or use them in combination – whatever you think will work best for you.

- "Cold turkey." Stop smoking or vaping all at once on your Quit Day. This method works best for some people because it doesn't drag out the quitting process.
- Cut down the number of cigarettes you smoke each day or how many times you vape until you stop completely.
  - For example, if you smoke 20 cigarettes each day, cut down to 10 per day for two to three days. Next, cut it down to five cigarettes for two to three days. Keep track on a calendar. By your Quit Day, stop smoking completely.
- Smoke only part of each cigarette, reducing the amount until you stop smoking completely.
  - Count how many puffs you normally take from each cigarette, then reduce the number of puffs every two to three days. Keep track on a calendar. On your Quit Day, stop smoking completely.

## 3. Make a plan for your Quit Day and afterward. Have healthy snacks available, like:

- fruits and vegetables
- nuts and seeds
- air-popped popcorn
- sugar-free mints and chewing gum

## Find enjoyable ways to fill the time when you may be tempted to smoke:

- Go to a movie.
- Work out or go to the gym.
- Visit non-smoking friends.
- Take a walk.
- Enjoy a cup of coffee or tea.
- Try a new hobby that occupies your hands, like painting, playing an instrument, woodworking or knitting.
- Work in the yard or garden.
- Get rid of every cigarette, vape, match, lighter, ashtray and any other tobacco product in your home, office, and car.

## PEOPLE WHO LOOK OLD MORE PRONE TO HEART ISSUES

Want a clue to your risk of heart disease? Look in the mirror.

People who look old — with receding hairlines, bald heads, creases near their ear lobes or bumpy deposits on their eyelids — have a greater chance of developing heart disease than younger-looking people the same age, new research suggests.

Doctors say the study involving 11,000 people highlights the difference between biological and chronological age.

Looking old for your age marks poor cardiovascular health. A small consolation: wrinkles elsewhere on the face and gray hair seemed ordinary consequences of aging and did not correlate with heart risks.

The research began in 1976 when participants were age 40 or older. At the start, researchers documented people's appearance, counting crow's feet, wrinkles and other signs of age. In the next 35 years, 3,400 participants developed heart disease (clogged arteries), and 1,700 suffered a heart attack.

The risk of these problems increased with each additional sign of aging present at the start of the study. Those with three to four of these aging signs — receding hairline at the temples, baldness at the crown of the head, earlobe creases or yellowish fatty deposits around the eyelids — had a 57 percent greater risk for heart attack and a 39 percent greater risk for heart disease compared to people with none of these signs.

This was true at all ages and among men and women, even after taking into account other factors such as family history of heart disease.

Having yellowish eyelid bumps, which could be signs of cholesterol buildup, conferred the most risk, researchers found. Baldness in men has been tied to heart risk before, possibly related to testosterone levels. They could only guess why earlobe creases might raise risk.

Dr. Kathy Magliato, a heart surgeon, says doctors need to pay more attention to signs literally staring them in the face. "We're so rushed to put on a blood pressure cuff or put a stethoscope on the chest" that obvious, visible signs of risk are missed, she said.

## SECONDHAND SMOKE KILLS

People who have never smoked but live with a smoker have a 15% higher mortality rate than those in smoke-free households, according to a study from New Zealand. Similarly, last year, a European study found that secondhand smoke at home boosts the risk of lung cancer, on average, by 20%. The longer the exposure, the greater the risk.

## STEALTH WEIGHT GAIN

What's the difference between your high school prom dress size and your midlife wardrobe? About 10 calories a day, or one Life Savers candy. That's the conclusion of Australian research that pegged the obesity epidemic to gradual, almost imperceptible weight gain in adulthood.

Among 8,000 middle-aged women followed for 5 years, the average weight gain was just 1 pound per year, the result of a mere 10 additional daily calories. That translates into 10 pounds per decade, the scientists say, and can push the average woman out of her healthy weight zone, through the overweight range, and into obesity in just 3 decades--say, from age 18 to 48. (American adults gain an average of 1 1/2 pounds per year, equivalent to 15 extra calories per day).

**A MILE, FOR WHAT IT'S WORTH**

From an exercise standpoint, the following are roughly equivalent:

Walking or jogging	1 mile
Swimming	¼ mile
Bicycling	3 miles
Cross-country skiing	¾ mile
Aerobic dancing	8-12 minutes
Playing a sport	20 minutes

**A PRESCRIPTION TO END AN EPIDEMIC**

Diabetes doesn't have to be the big issue it is. In many cases, you don't have to get Type 2 diabetes. And, if you do have it, you can do something to reverse the effects. It's called a healthy lifestyle that includes eating nutritious, balanced meals and getting regular exercise.

- ◆ Don't try to change too much too soon. Commit to one new healthy habit each week. Just one. Maybe it's walking for 20 minutes after dinner.
- ◆ Be consistent. Apply your new habit daily for a week.
- ◆ After the week, if the new habit is sticking and you no longer think about it, but just do it, add a new habit/goal. Perhaps you replace your afternoon soft drink with water.
- ◆ If you struggled with the change, don't beat yourself up. You tried. Why didn't it work? Did you not have the time? Was the goal too much? Tweak and try again. Take smaller steps. Or, move to another, easier change and come back to the challenging one later.

**OMEGA 3-6-9**

Did you realize there was more than one kind? When you hear or read "essential fatty acid," the term omega-3 may come to mind, but did you know there are two other omegas?

Here is what you need to know:

- Omega fatty acids are healthful, unsaturated fatty acids that have been linked to a decreased risk for cardiovascular disease and cancer, to improved joint health, and to brain development.

- There are three types: omega-3, omega-6, and omega-9. Omega-3's can be consumed in foods such as wild-caught salmon, mackerel, anchovies, walnuts, flaxseed and green leafy vegetables. Omega-6's can be found abundantly in many of our common vegetable cooking oils: soybean oil, sunflower oil, canola oil and corn oil. And, Omega-9's are found in animal fats and vegetable oils, most notably olive oil.
- The typical American gets anywhere from 10 to 30 times more omega-6 than omega-3. The American Heart Association and other medical experts recommend eating oily fish and seafood, including salmon, at least twice a week to increase your omega-3 intake.

**SEX DRUG 'EFFECTIVE' AS A HEART FAILURE TREATMENT**

A drug used to treat erectile dysfunction has been found by University of Manchester scientists to slow or even reverse the progression of heart failure in sheep. Sheep were used by the team as the physiology of their hearts is similar to human hearts.

The British Heart Foundation funded study is a breakthrough in the treatment for heart failure in which five-year survival rates are lower than most common cancers.

The study of Tadalafil—which is in the same class as Viagra—proves that the drug is biologically effective as a treatment for heart failure in sheep. However, lead author Professor Andrew Trafford argues the effect is likely to also be shown in humans.

Heart failure is a devastating condition, occurring when the heart is too weak to pump enough blood to meet the body's needs. It also causes a build-up of fluid that backs up into the lungs, resulting in breathlessness as well fluid retention, resulting in swelling of different parts of the body.

Most current treatments are ineffective.

It's entirely possible that some patients taking Tadalafil for erectile dysfunction have also unwittingly enjoyed a protective effect on their heart.

**LOSE THE WEIGHT, LOSE THE HEARTBURN**

Its common knowledge that certain foods can trigger symptoms of gastroesophageal reflux disorder (GERD) — a condition characterized by frequent episodes of acid reflux, also known as heartburn.

But, scientists and doctors have shown in a number of different studies that excess body weight — even being just slightly overweight — can also trigger the onset of GERD and influence its severity.

Similarly, there's evidence that losing excess body weight can improve or even resolve symptoms of GERD.

It's unclear exactly why extra body weight has an effect on GERD, but one likely explanation is that the extra weight puts pressure on your abdomen. This increases the risk that your lower esophageal sphincter (LES) — the ring of muscle between your esophagus and stomach — will relax when it shouldn't.

Another possible explanation is that people with a higher body weight may eat more fat, which is a well-known GERD trigger.

If you have GERD and you're overweight or obese, it may be worthwhile to talk to your doctor about how losing weight could improve your symptoms.

### WHAT ARE NORMAL PULSE RATES WHEN EXERCISING?

When you exercise, your pulse rate accelerates to help move blood and oxygen through your cells and tissues. Knowing your pulse rate can help you evaluate your exercise routine and maximize the benefits of your workout. The best results occur when your pulse rate stays within your target zone during exercise; a pulse rate that's too high or too low could signal potential problems

#### Pulse Rate Basics

Your pulse, or heart rate, is a way to tell how hard and effectively your heart is pumping. Each time your heart expands and contracts, it forces blood through your circulatory system, and you can feel these pulses at points on your body such as your neck and wrist. A normal pulse rate varies from 60 to 90 while at rest, and up to 200 during vigorous exercise, depending upon your age and fitness level.

#### Target Heart Rate

Determine your estimated maximum heart rate for exercise by subtracting your age from 220. During exercise, aim for between 60 to 80 percent of your maximum heart rate number; any pulse rate within this range is normal. Avoid exercise that pushes your pulse above 85 percent, as this can lead to cardiovascular and orthopedic problems without any added health benefits. If you have a preexisting health concern, your doctor may decrease your target heart rate zone to around 50 percent.

#### Taking Your Pulse

To see if you're exercising in your target heart-rate zone, stop exercising and take your pulse for ten seconds. Place the tips of your index, second and third fingers on the palm side of your opposite wrist or on your neck near your windpipe.

Press lightly until you feel the pulse, then count the beats for 10 seconds while looking at a watch or clock, and multiply that number by six. If you are unable to take your pulse or stop exercising to do so, you can use the maximum perceived exertion method: if you can talk and exercise at the same time, you aren't working too hard, but if you can sing and still exercise, you're not working hard enough. You can also use a strap-on heart-rate monitor or a medically supervised graded exercise test to determine your heart rate.

#### Considerations

Several factors can affect your target pulse rate, including increases in air temperature and dehydration, which can cause your heart rate to increase, as can exercising at higher altitudes. Medications for heart disease, high blood pressure and diabetes can also affect your pulse rate; your doctor may need to adjust your target heart rate zone if you have any of these conditions. If your pulse is consistently too low or too high during exercise, consult your doctor, especially if you also experience shortness of breath, pain, dizziness or fainting.

### BELLY FAT LINKED TO SMALLER BRAIN



Extra belly fat could be linked to a shrinking brain.

Researchers measuring body mass index and waist-to-hip ratios found people with higher ratios of both had the lowest brain volume.

The study observed 10,000 people with an average age of 55. About 1,000 participants with high BMI and waist-to-hip ratios had the lowest average of gray matter in the brain, which controls self-control, muscle control and sensory perception, compared to about 3,000 participants of healthy weights who had an average amount of gray matter. About 500 participants with a high BMI but not a high waist-to-hip ratio also had an average amount of gray matter.

It's unclear if abnormalities in brain structure lead to obesity or if obesity leads to these changes in the brain. We also found links between obesity and shrinkage in specific regions of the brain. This will need further research but it may be possible that someday regularly measuring BMI and waist-to-hip ratio may help determine brain health.

#### AS SENSE OF SMELL FADES....

They say the nose knows, but can a loss of smell signal impending death?

Possibly, researchers say.

They discovered that a poor sense of smell was associated with a nearly 50% higher risk of death within the next decade for adults older than 70.

While the study didn't prove cause and effect, that association is enough to make some experts wonder whether seniors' sense of smell should be tested alongside their other vital signs.

I would not be surprised if someday the sense of smell was included as a simple checkup, to see if this important human sense is affected.

As many as 1 in 4 aging Americans suffers a loss in their sense of smell, researchers said in background notes.

Further, research has linked the loss of an ability to smell to your risk of neurodegenerative disorders such as Alzheimer's disease, Parkinson's disease and some dementias.

#### A DEVICE THAT HEATS TOBACCO, BUT DOESN'T BURN IT

After a two-year wait, the FDA green-lit the sale of a new gadget that heats tobacco instead of burning it.

The device, which is called IQOS (pronounced EYE-kose) and made by Philip Morris International, works by heating tobacco-filled sticks, called Heatsticks, to produce a nicotine-rich aerosol. The FDA's decision means the device may now be marketed in the U.S. — but even though IQOS has been shown to produce fewer of the cancer-causing chemicals found in traditional cigarettes, the FDA has not yet approved a separate application to call IQOS a lower-risk alternative to cigarettes. It's also not entirely clear whether IQOS will help smokers quit.

Philip Morris USA and its parent company Altria will sell IQOS in the U.S., and it will first be introduced in the Atlanta area in 90-120 days. Specific pricing information is not available, but the spokesperson said it will be "priced to incent" adult smokers "who are looking for alternatives to cigarettes."

#### How does IQOS work?

Traditional combustible cigarettes produce smoke when tobacco is burned at high temperatures. By contrast, the FDA says the pen-like IQOS device heats, but does not burn, "tobacco-filled sticks" wrapped in paper, creating an aerosol that contains nicotine. Marlboro, an Altria brand, will make the tobacco sticks used inside the cartridge, which will come in menthol and unflavored versions.

#### Is IQOS safer than cigarettes?

The FDA has yet to make a ruling on that question, so it's too soon to say. While the FDA says that levels of cancer-causing chemicals found in cigarette smoke, including acrolein and formaldehyde, are lower in IQOS' aerosol, "it does not mean these products are safe. All tobacco products are potentially harmful and addictive and those who do not use tobacco products should continue not to," the FDA said in its release.

#### SHOULD YOU GET A MEASLES BOOSTER SHOT?

Unvaccinated individuals have been the focus of attention during this year's measles outbreaks.

A record 704 cases of the illness have been confirmed in 22 states so far in 2019, and the CDC says the majority of those diagnoses have been in unvaccinated people. Health officials have repeatedly warned nearly everyone to get the shot if they haven't already. **Over 90% of the measles cases** that have occurred in the U.S. have occurred in unvaccinated persons.

But, are those who have already been vaccinated safe, or might they need extra protection? Here's what to know about measles booster shots.

Currently, the CDC recommends that children get two doses of the measles, mumps and rubella (MMR) vaccine, unless they have specific allergies or prohibitive medical conditions. The first dose should be administered between 12 and 15 months, the CDC says, while the second should be given to kids ages four through six.

But until 1989, the CDC only recommended that children get one dose of the vaccine. Two doses of the shot are about 97% effective at preventing the measles, while one dose is about 93% effective.

Older adults may be even less protected. The measles vaccine was introduced in 1963, and some early versions of the vaccine were not as effective as those offered today.

That's because the initial version was a "killed" vaccine, or one using an inert version of the virus. Today's vaccines, by contrast, use a live virus that's not potent enough to actually produce disease but provides better protection against future infection.

The vast majority of people who get two doses of the measles vaccine are protected for life and do not need a booster shot.

But, some people should consider getting re-vaccinated, even if they've gotten some form of the vaccine. Those of highest priority are under-vaccinated adults — in other words, those who received only one dose or a less effective early version of the MMR vaccine — who are planning to travel to countries where there are active measles outbreaks, such as Israel, Ukraine and the Philippines; live near active outbreaks in the U.S., such as those in New York, New Jersey, Michigan, California, Maryland and Georgia; or work in health care.

If anybody falls into those categories and they are concerned, the response is very simple. Go to your health care provider, including a pharmacy, roll up your sleeves and get a dose of MMR. There's no downside risk to get re-vaccinated. You may get a little bit of a sore arm, but that's all.

### WHY MEN SHOULD EJACULATE AT LEAST 21 TIMES PER MONTH

The key to good prostate health might be in your own hands: Ejaculating frequently may reduce your risk of prostate cancer, finds new research from the Boston University of Public Health. The study looked at how ejaculation frequency affected prostate cancer risk over the course of 18 years.

It found that men ages 20 to 29 who ejaculated 21 times or more each month were 19 percent less likely to be diagnosed with prostate cancer than those who ejaculated less often, between 4 and 7 times per month.

And, it wasn't just young guys who saw the benefit: Men 40 to 49 who ejaculated at least 21 times per month reduced their risk of developing prostate cancer by 22 percent.

More research is needed to determine what's responsible for the link, but it might be that more frequent clearing of the prostate—through ejaculation—could cut the chances that tumor-triggering infections may develop there.

Won't be having sex 21 times this month? Don't worry: The study showed a dose-dependent relationship with ejaculation and prostate cancer risk, meaning that the more you do it, the more your risk decreases, she says.

So even ejaculating just a few more times each month can likely bring some benefits to your prostate.

### INTERMITTENT FASTING: SURPRISING UPDATE

There's a ton of incredibly promising intermittent fasting (IF) research done on fat rats. They lose weight, their blood pressure, cholesterol, and blood sugars improve... but they're rats. Studies in humans, almost across the board, have shown that IF is safe and incredibly effective, but really no more effective than any other diet. In addition, many people find it difficult to fast.

But, a growing body of research suggests that the timing of the fast is key, and can make IF a more realistic, sustainable, and effective approach for weight loss, as well as for diabetes prevention.

### The backstory on intermittent fasting

IF as a weight loss approach has been around in various forms for ages, but was highly popularized in 2012 by BBC broadcast journalist Dr. Michael Mosley's TV documentary *Eat Fast, Live Longer* and book *The Fast Diet*, and subsequently's 2016 bestseller *The Obesity Code*. IF generated a steady positive buzz as anecdotes of its effectiveness proliferated.

*The Obesity Code* seemed the most evidence-based summary resource. The author successfully combines plenty of research, his clinical experience, and sensible nutrition advice, and also addresses the socioeconomic forces conspiring to make us fat. He is very clear that we should eat more fruits and veggies, fiber, healthy protein, and fats, and avoid sugar, refined grains, processed foods, and for God's sake, stop snacking.

### Intermittent fasting can help weight loss

IF makes intuitive sense. The food we eat is broken down by enzymes in our gut and eventually ends up as molecules in our bloodstream. Carbohydrates, particularly sugars and refined grains (think white flours and rice), are quickly broken down into sugar, which our cells use for energy. If our cells don't use it all, we store it in our fat cells as, well, fat. But, sugar can only enter our cells with insulin, a hormone made in the pancreas. Insulin brings sugar into the fat cells and keeps it there.

Between meals, as long as we don't snack, our insulin levels will go down and our fat cells can then release their stored sugar, to be used as energy. We lose weight if we let our insulin levels go down. The entire idea of IF is to allow the insulin levels to go down far enough and for long enough that we burn off our fat.

### **Intermittent fasting can be hard... but maybe it doesn't have to be**

Initial human studies that compared fasting every other day to eating less every day showed that both worked about equally for weight loss, though people struggled with the fasting days. So I had written off IF as no better or worse than simply eating less, only far more uncomfortable. My advice was to just stick with the sensible, plant-based, Mediterranean-style diet.

New research is suggesting that not all IF approaches are the same, and some are actually very reasonable, effective, and sustainable, especially when combined with a nutritious plant-based diet.

Based on this, researchers conducted a study with a group of obese men with pre-diabetes. They compared a form of intermittent fasting called "early time-restricted feeding," where all meals were fit into an early eight-hour period of the day (7 am to 3 pm), or spread out over 12 hours (between 7 am and 7 pm). Both groups maintained their weight (did not gain or lose) but after five weeks, the eight-hours group had dramatically lower insulin levels and significantly improved insulin sensitivity, as well as significantly lower blood pressure. **The best part?** The eight-hours group also had significantly decreased appetite. They weren't starving.

Just changing the timing of meals, by eating earlier in the day and extending the overnight fast, significantly benefited metabolism even in people who didn't lose a single pound.

### **4 ways to use this information for better health**

- Avoid sugars and refined grains. Instead, eat fruits, vegetables, beans, lentils, whole grains, lean proteins, and healthy fats (a sensible, plant-based, Mediterranean-style diet).
- Let your body burn fat between meals. Don't snack. Be active throughout your day. Build muscle tone.
- Consider a simple form of intermittent fasting. Limit the hours of the day when you eat, and for best effect, make it earlier in the day (between 7 am to 3 pm, or even 10 am to 6 pm, but definitely not in the evening before bed).
- Avoid snacking or eating at nighttime, all the time.



# What's the Difference?

We are often asked, "If we have Long Term Disability (LTD) coverage for our pilots, why do we/they need Loss of License (LOL) coverage"? The answer lies in an explanation of the difference between LTD and LOL.

Traditional LTD carriers don't recognize what we call the licensing risk. That's the risk of an FAA licensing grounding that can extend well beyond the resolution of the health issue/problem that initially triggers a disability benefit. Further, they generally don't recognize at all, those health related medical licensing safety issues that cause a pilot's loss of income, but never trigger an LTD benefit. Below is an example:

A pilot has to have a stent. After 45 days, his cardiologist releases him to go back to work. The LTD carrier reasons that his health problem has been solved, and his doctor released him, so they deny or cease further payment of benefits.

**Here's the problem:** The FAA won't even consider letting him fly until at least six months has elapsed between the event and his request to go back on flight status. And, it's incumbent on the pilot to prove to the FAA that he /she is fit to fly after the six month mark. So, he has to know the FAA requirements, have extensive testing, and have his case presented to the FAA Cardiac Review Board for a "Special Issuance". (By the way, the board only meets every other month.) In the real world of aviation, it can be seven to twelve months before this pilot can fly again even though the LTD carrier stopped benefits after 45 days. A LOL Watt policy can continue to pay the pilot long after the LTD plan stopped.

The bottom line is that traditional disability insurance will not typically consider a pilot disabled once your treating doctor or the insurance company's doctor say "he's good to go." Hence the reason Loss of License Insurance was created and our experience shows it pays nearly 1 in 20 covered pilots every year.

With 70+ years' experience, Harvey Watt & Co. provides the only US pilot disability plans for individuals and small groups with a FAA Medical Licensing definition of disability for commercial pilots.

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