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Science caught "sleeping with the fishes"

What you REALLY need to know about fish, omega-3s, and prostate cancer risk

Many men—including some of my own doctor friends—have been asking me about the latest "fish story" making headlines. In July, researchers from the esteemed Fred Hutchinson Cancer Research Center in Seattle announced that they had found a "statistical link" between fish oil and prostate cancer.[1]

The news was trumpeted from the rooftops. Every major media outlet covered it. Unfortunately, the results of this study are misleading at best. And downright dangerous at worst.

Sadly, I'm not surprised, considering the source.

Over the last three decades, this Center happily received billions of dollars of research grants from the National Cancer Institute to study diet and cancer. But they put these funds into the hands of scientists who didn't seem to have any genuine interest or expertise in nutrition or natural approaches. So I also wasn't surprised to find this particular study was filled with flaws.

To help get the story straight, in this issue of *Insiders' Cures*, I'll cover all the bases regarding this particular prostate cancer scare. I'll also go over the ins and outs of fish oil and omega-3's—what goes into a quality supplement, and other sources of these essential fatty acids. And while I'm at it, this is the perfect opportunity to discuss prostate health in general. So later in this issue, I'll also share those details—and tell you about my role in discovering the single most important nutrient for prostate health.

But first, back to the latest nonsense about fish oil and prostate cancer. Let's fill in the "fishin' holes" these scientists left in their so-called research, one by one.

Aimless "fishing" expedition ends in a "maritime disaster"

First of all, when you design a scientific study, you are supposed to make a hypothesis or a prediction at the outset. This is grade school science class stuff, right? But for this study, the Center's researchers went on a "fishing" expedition—literally as well as figuratively.

They had no hypothesis. No theory. And they weren't even testing a possible biological "mechanism" to see if fish oil could possibly *cause* prostate cancer. None of that. A "perfect storm" for getting specious results. Apparently, they just stumbled across this "statistical association" without having any understanding of what could have caused it, or whether it was even real.

And this leads to the next hole in their findings…

Yes, the researchers found that some men with prostate cancer had really high levels of omega-3s. And, yes, you find these fatty acids in fish and fish oil supplements. But the researchers couldn't tell whether the men with high omega-3s took fish oil supplements, or if they just ate a lot of fish, rich in omega-3 fatty acids.

And that's a key point.

What real science says about fish consumption

If the men ate fish, how do the researchers know for sure it wasn't something *else* in the fish—such as mercury—that caused the statistical bump in cancer rates?

The answer is: They don't.

And to suggest otherwise blatantly disregards all the prior existing science.

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In this issue:

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In fact, just three years ago, this very same group of researchers reported that consumption of fish is ***not*** associated with any increased risk for prostate cancer.

And in 2010, a group of Canadian researchers conducted a meta-analysis (looking at all studies that had been done to date). The results indicated a reduction in aggressive, late stage, and fatal cancers among cohort studies.[2] These are the best kind of statistical studies, since initially healthy people are followed over time to determine who eventually develops the disease outcome.

And there was no overall relationship between prostate cancer and fish intake.

But here's (another) important point missed by these researchers—and all the "experts" who have been discussing this study—both pro and con: Prostate cancer becomes very common as men get older. In fact, the majority of men over age 75 will actually have prostate "cancer." However, most of the time, this is a "silent" cancer that is so slow-growing and benign it rarely causes any problems.

So, what you should really be concerned about are the aggressive "late stage" and "fatal" prostate cancers. The kind these same researchers found are reduced by fish consumption.

But setting aside all this double-talk from Seattle, the bottom line is—other studies have also found higher fish intake to be associated with lower prostate cancer incidence, and fewer deaths from prostate cancer.

And consider prostate cancer rates in Japan, which are much lower than those in the U.S. The Japanese eat eight times more fish, on average, than Americans. If there were any real problem with fish it would be obvious in this kind of comparison.

On the other hand, if the men in this new study had high levels of omega-3s because they took fish oil supplements (vs. high consumption of fish), that's a whole different set of questions…

What you don't know about your fish oil supplement CAN hurt you

Another "fishy" thing about the new Seattle study is that the omega-3 levels (EPA + DHA) were well below those typically seen in people who are actually taking fish oil supplements (as documented in well-done studies such as the Framingham Heart Study).

But, just for argument's sake, let's say the men in this new study were taking fish oil supplements…

The prostate cancer association noted by these researchers could simply mean these men took *poor-quality* fish oil supplements.

You see, when it comes to fish oil, there is a big difference between properly distilled fish oils and crude fish oils.

Fish oils that are *not* properly distilled can contain *oxidized* omega-3 fatty acids, which are known to be harmful. And even cause cancer. Remember, any "anti-oxidant" can become oxidized and harm cells under the wrong circumstances.

Beyond that, without proper quality control procedures, fish oils can contain contaminants such as arsenic, lead, mercury or other heavy metals. These can also act as carcinogens.

Specificity matters

Lastly, the researchers did not distinguish between different forms of omega-3s. For example, ALA is the inactive precursor of omega-3 fatty acids. EPA and DHA are the active forms.

Healthy men (and women) convert inactive ALA into active EPA. But men who are not well convert ALA poorly, or not at all.

And the Center's researchers did not specify which kind of omega-3s they found in their subjects' blood. For all we know, these men could have had a lot of ALA in their blood—which would indicate they were not well in the first place.

In the end, we cannot *and should not* draw any valid conclusions from this flawed study. This study proved nothing…except how clueless cancer researchers still are about nutrition.

Even worse, however, is how these researchers appeared to knowingly mislead readers. You see, a scientist should point out both sides of an issue. You should always cite studies that both support and *refute* your conclusion. (Again, you'll probably remember this from your grade school science class.)

But these researchers only cited studies that support their own incorrect conclusions. And they ignored mounds of published studies that don't support their conclusions.

The sad truth is, without knowing the *quality* of the supplements you take, or study, you don't know what you are getting. And what you don't know *can* hurt you.

So, to that end, let's move on and discuss what to look for in a fish oil supplement.

Quality control

As I mentioned above, it is important that crude fish oils are distilled under nitrogen (which is chemically non-reactive). This process protects the delicate and easily damaged active forms of EPA and DHA from becoming oxidized and rancid.

Distillation also removes mercury, volatile organic compounds, and solvent residues that are present in the crude fish oil. (It also preserves fresh taste, which I'm sure you'll agree is critical when it comes to any fish products.)

Aside from being distilled, any fish oil supplement you choose should be in capsules (not tablets or pills)—and preferably softgels.

Post production testing should be done by a reputable independent lab. This ensures that the delicate active ingredients (DHA and EPA) have not been harmed during processing and remain in their most healthy and beneficial form.

Of course, it's impossible to know whether the brands of fish oil lining the shelves in your local pharmacy live up to these standards. (And don't look for the average pharmacist to know, either.) So I've tracked down a source that does—a company called PERQUE. They offer two high-quality fish oil formulas: EPA/DHA Guard and Triple EFA Guard. To learn more about PERQUE fish oil supplements go to www.vitamins-today.com or call (800)525-7372. I use PERQUE for myself and my family.

Nordic Naturals also makes several great fish oil products that I have personally tested in years past.

Assuming you choose a high-quality brand, I recommend 1 to 2 grams of DHA/EPA from fish oil per day.

Citations available online at www.DrMicozzi.com

NEWS BRIEF

Perception of stress increases heart attack risk

Some scientists are finally beginning to recognize that it is stress (not salt) that causes high blood pressure and heart disease—and contributes to other chronic diseases such as diabetes, obesity, and even some cancers.

A British study previously found that the measurable physiologic changes associated with stress can have an adverse effect on health.

Now they've found just the perception of being stressed leads to an increased risk of heart disease.[1]

This study was comprised of several thousand British civil servants. And while you may correctly consider government and its employees to be the main *source* of stress in modern life, perhaps they are the *subjects* of stress as well—at least in Britain, where good government may still mean something.

The question was: "To what extent do you consider stress or pressure in your life has an effect on your health." Multiple choice answers were: "not at all, a little, moderately, a lot, or extremely."

Those who answered in the highest two categories showed more than double (2.12) the number of fatal heart attacks over the following years.

Of course, the *experience* of stress can be subjective. And one man's meat may be another man's poison, so to speak. For example, for a fighter pilot, just sitting at a desk can be stressful, relatively speaking.

But regardless of what causes it, this study shows that people know when they are stressed. Since determining "stress levels" can be difficult among different people, this study may offer a "new" way to "measure" them:

Perhaps we can just ask the patient.

Citations available online at www.DrMicozzi.com

"Frat-boy diet" discovery leads to ultimate prostate protection

I've written before about the government's failed campaign to promote beta-carotene as an anti-cancer solution. The more my colleagues at USDA's Beltsville Human Nutrition Research Center and I delved into the research, the clearer it became: There was no correlation between dietary or blood levels of beta-carotene and cancer.

In other words, beta-carotene was not the cancer savior the National Cancer Institute promoted it to be.

But something good did come out of the research my colleagues and I conducted some 25 years ago…

We found that while beta-carotene doesn't protect against cancer, other carotenoids—such as lutein and lycopene—***do***.

At the time, no one had ever heard of these carotenoids before. Of course, since then they've become much more well known. In fact, lycopene has taken center stage for being highly protective against prostate cancer. And it really should be at the top of every man's prostate cancer prevention priority list—followed by a few other specific nutrients. There's also one very important step you should take when supplementing with these nutrients to ensure you get their full protective benefits.

I'll give you all the details in just a moment. But first, let's take a closer look at lycopene.

Pizza, burgers, fries…and healthy prostates?

When we performed our original study on dietary consumption and blood levels of carotenoids, we were initially amazed at the high levels of lycopene among young college students from our local state school, the University of Maryland. When we broke this down further, we found the students had very high consumption of some seemingly "unhealthy" foods—like pizza, hamburgers, and French fries. But all of these foods had one thing in common: tomatoes.

The pizza, of course, was topped with thick tomato sauce. And the burgers and fries were typically doused with a hefty serving of ketchup.

In nature, of course, tomatoes are the primary abundant food source of lycopene. And when they're heated and concentrated during the manufacturing process to produce ketchup, tomato sauce, or other tomato-based products, the natural lycopene actually becomes more concentrated and remains bio-available.

Contadina tomato paste was famous for getting "eight great tomatoes in that little, bitty can." And tomato paste is essentially like a concentrated lycopene supplement.

Even lycopene's "side effects" are benefits

Since our discovery of lycopene at the USDA, numerous studies have demonstrated that this nutrient not only reduces prostate cancer risk, but also heart and circulatory disorders, immunologic dysfunction, and general inflammation.

Granted, not all the studies on lycopene have been positive. But this probably represents differences between using a therapeutic "dose" and an ineffective level of consumption. For example, population studies show that a minimum daily intake is essential for disease prevention. Some studies have seen positive results with doses as low as 3-5 mg per day. But others have shown more promising results with daily consumption of 10-12 mg.

The most recent study, published in the journal *Neurology* showed a decreased risk in stroke with just 10 mg of lycopene per day.[1] More than 50 percent decreased risk, to be precise. A truly remarkable feat.

Especially when you consider how easy it is to get 10 mg of lycopene. Even without supplements. A wedge of watermelon, for example, has about 12 mg of lycopene. And a cup of tomato juice has even more, of course, at 22 mg of lycopene.

Even the most effective drugs

The surprising origin of this Italian staple

Tomatoes were originally called *tomatl* and cultivated among the Aztec in MesoAmerica (modern central Mexico). When the Spanish brought them back to Europe in the 1500s, they were initially considered poisonous as a member of the *Solinacea* family which includes other plants such as "deadly nightshade."

Believe it or not, tomatoes did not appear on an Italian menu until the 1700s. But by the time mass immigration of Italians to the U.S. occurred in the later 1800's, tomato sauce had been firmly established as an "Italian-American" dish.

hardly come close to this magnitude of benefit. And they're usually associated with negative side effects.

Meanwhile, the "side effects" of lycopene are a simply more benefits. For example, studies completed at the University of Kentucky show that elderly individuals consuming 30 mg of lycopene had significantly enhanced preservation of memory.

And lycopene was enough to keep a substantial segment of the population free-living and independent—without requiring an extended-care facility. Such a simple step would result in substantial savings in health care costs. Not to mention a great improvement in the quality of life for senior citizens.

In other studies, eyesight problems, including macular degeneration, were significantly decreased by the consumption of lycopene.

Lycopene even appears to offer some "anti-aging" and cosmetic benefits. The consumption of lycopene has been shown to decrease the development of wrinkles. And it may be able to diminish your reaction to sunburn.

So this simple nutrient can protect you from harmful UV rays without toxic and dangerous "sun blocks." As an added benefit, it still allows you to get enough sun for healthy vitamin D levels. And getting optimal vitamin D is important for cancer prevention, including prostate cancer.

Four more nutrients to round out perfect prostate support

Speaking of nutrients to support prostate health, here is the complete list of my specific recommendations:

Lycopene	5 – 15 mg
Selenium	100 mcg
Vitamin D	2,000 IU
Vitamin E	50 IU

One important note: All of these nutrients are fat-soluble—which means taking them with an oil increases their absorption and their effectiveness.

So I also recommend taking a fish oil supplement, 1-2 grams per day. If you absolutely can't bring yourself to take fish oil, at the very least, you should opt for some other source of omega-3 fatty acids. And don't forget to eat plenty of fish, tomatoes, and other food sources of the above nutrients. See the box below for a list of good options.

Remember, people eat foods, not nutrients. Tomatoes, and other foods with lycopene also have an extensive array of other antioxidants and phytonutrients. It is important to remember that other carotenoids and flavonoids in foods often have synergistic benefits.

Of course, how foods are grown is also important to preserve their nutrient content, as well as their taste.

Harvesting your health

I admit that I'm more than a little skeptical of the so-called "organic" movement—at least since big government and big industry have stepped in. I wrote about this topic at length in my *Daily Dispatch* last year (8/22/12, subject line: "Big Food takes over the organic market," and 10/1/12, subject line: "Deep into organic." You can access these articles for free on my website, drmicozzi.com.)

And a recent study from Stanford University Center for Health Policy has cast more doubt on "organic" farming. Researchers examined data from 237 previous studies. They found that when it comes to certain nutrients, there is not much difference between organic and conventionally grown foods.[2]

However, studies have shown that the levels of lycopene in organic tomatoes are at least double those in conventional tomatoes.[3,4]

These days, it's easy to substantially improve your health with in-season consumption of locally grown tomatoes and other brightly colored fruits and vegetables. They not only taste better, but will yield long-term health benefits.

But as the harvest season winds down this year and we head into winter, you can keep up your healthy levels of vitamin D, lycopene, and the other nutrients mentioned above with high-quality supplements.

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Prostate protection on your plate

Nutrient	Food source
Lycopene	Tomatoes, tomato products (ketchup, tomato sauce, tomato paste, tomato juice), guava, watermelon, pink grapefruit, cherries
Vitamin D	Swordfish, salmon, tuna, sardines, liver, egg yolk
Selenium	Brazil nuts, tuna, halibut, sardines, shrimp, ham
Vitamin E	Sunflower seeds, almonds, hazelnuts, peanut butter
Omega-3 fatty acids	Fish oil, salmon, mackerel, cauliflower, chia seeds, flax seeds, walnuts

WARNING: New diabetes drugs have deadly consequences for older patients

A new article in the *Journal of the American Medical Association (JAMA)* is questioning whether controlling blood sugar in older adults with diabetes might do more harm than good.[1]

This is not to say that you are not better off with lower blood sugar. But, all things being equal, there are side effects and complications from drug treatments that may leave you worse off than just living with higher blood sugar once you become elderly.

Fortunately, that isn't a choice you really need to make. You can lower your blood sugar safely—without Big Pharma's new "wonder drugs." More on that in a moment. But first, let's take a look at this new study—and the dangers it uncovered.

New drugs TOO effective at lowering blood sugar?

So what's the problem with drugs that treat *high* blood sugar?

Low blood sugar.

Diabetes drugs are designed to lower blood sugar. But sometimes they're too "effective"—and drive blood sugar too low. This can be a real problem (especially in the elderly) because low blood sugar can cause fainting and dangerous falls.

Blood sugar fluctuates—going up and down before and after meals, with exercise, and daily cycles. Initially, blood sugar is measured after 12 hours of fasting to try to reduce these variations and find a "baseline" level. After that, doctors typically use Hemoglobin A1C to measure average blood sugar over the long term.

This test measures the level of hemoglobin that is bound to sugar in the blood. And it provides an average estimate of how high blood sugar gets in the blood, over an extended period of time.

Diabetes drugs lower your Hemoglobin A1C level over time. But this measurement really only gives you an average—and doesn't account for times when your blood sugar goes too low.

So the authors of this new *JAMA* study suggest that the way diabetes is currently being treated in this country is a "one size fits all" approach leading to many adverse events.

On average, over a 10-year period, insulin (and new drugs that make the pancreas secrete insulin) will cause 4 to 7 *severe* episodes of low blood sugar in people who undergo this sort of therapy.

The older you are, the higher your risk of having a serious episode of low blood sugar. Taking multiple drugs (which also becomes more common as you age) adds to the problem—increasing your chances of another drug interacting with your diabetes medication and resulting in low blood sugar. And such episodes can have more serious consequences in older patients.

In fact, this study points out one of the biggest dangers of low blood sugar: Increased risk of dementia.

I have pointed out before that prolonged high blood sugar increases the risk of developing dementia. (In fact, the problem is so serious, dementia can really be considered "Type 3 Diabetes.")

But this new *JAMA* article indicates that low blood sugar is also a risk factor for dementia.

Old standby offers safe, effective blood sugar balancing

Of course, before you get scared away from diabetes drugs altogether, let's make one thing clear. Not ALL blood sugar medications pose these risks.

It's the expensive, newer drugs (still on patent) that appear to have the most worrisome complications.

Sulfonylureas (chlorpropamide, glipizide, glyburide, etc.) are the biggest offenders when it comes to frequent and prolonged episodes of low blood sugar (they also increase heart disease risk). Pioglitazone (commonly known as Actos) increases the risk of edema, heart failure, bladder cancer and osteoporosis. And newer, incretin-based drugs (like Victoza and Byetta) not only remain very expensive, but their long-term safety record still isn't established.

But there are diabetes drugs that *don't* cause these complications. Such as the old standby, Metformin, which is long proven to be safe and effective. The main "side effects" are decreased risks of other chronic diseases, such as cancer (including dramatic reductions in pancreatic cancer, which is notoriously untreatable).

Indeed, Metformin should be the therapy of choice for most patients. Except the FDA actually warns against Metformin treatment in patients over 80 years. This warning stems from the old red herring of lactic acidosis. This is a metabolic condition that results in a buildup of lactic acid in the muscles due to changes in levels of sugar and oxygen. In extreme cases this condition can be fatal.

But as the new *JAMA* study is quick

to point out, this FDA precaution is not based on good quality evidence anyway. Studies have shown no difference in risk between diabetics using Metformin and those not using the drug. Most instances of this problem were actually due to underlying medical conditions among diabetic patients, and not the drug itself.

So the FDA warning against Metformin simply perpetuates an old, outdated myth. And it limits access to many older patients who could safely use Metformin. These are the very same patients who need it most—since they are the most vulnerable to episodes of low blood sugar and its effects (not to mention the potentially fatal side effects of the other, newer drugs.)

Are your health goals "age appropriate"?

The JAMA study also suggests revising Hemoglobin A1C levels upward based on increasing age.

This is an interesting idea. One that has been around for some time, for various conditions. For instance, when I was in medical training, the rule of thumb for "normal" systolic blood pressure was to add a patient's age to 100. So at age 20 years, a normal blood pressure is 120/80. But at age 80, it climbs up to 180. Of course this was "normal" only in the sense of providing a rough statistical average in a population subjected to a lifetime of stress.

The bottom line is, any time you use drugs to achieve a therapeutic goal, there are always trade-offs. And this new study suggests perhaps we can achieve a better trade-off between the effects of aging and the effects of drugs by setting somewhat more modest goals for everyone. And recognizing that, among older Americans (like everyone), a balanced approach is most appropriate.

I couldn't agree more.

Ultimately, just as persistent *high* blood sugar is associated with poor long-term health outcomes, so is *low* blood sugar. It is all about achieving balance in the body. Not too hot, not too cold, not too high, not too low. The basic principle of homeostasis and metabolism.

And let's not "experiment" with dangerous, unproven drugs in older Americans (or anyone else for that matter)…especially based on long-outdated, untrustworthy FDA "guidance." As I've said before, Metformin remains the best, safest, and most economical drug treatment option for controlling high blood sugar.

Of course, if your blood sugar is only mildly elevated, you may be able to keep it under control with simple lifestyle modifications. Losing weight, exercising regularly, and eliminating sugar and processed foods from your diet can all go a long way in helping to balance blood sugar.

However, if your blood sugar is more than slightly elevated—or if you have full-blown diabetes—drug treatment is probably the best bet. Just stay away from the new diabetes drugs I warned you about above. Stick with the old—proven—standby, Metformin. IC

Citations available online at www.DrMicozzi.com

Common blood pressure drugs triple breast cancer risk

Blood pressure drugs are one of the most common and widespread medical treatments in the U.S. today. And breast cancer is generally the No. 1 concern of women in the U.S.

So, why has it taken until now to perform a study on the risk of breast cancer from long-term treatment with blood pressure drugs?

For years, the NCI has supported research into dietary factors that may increase cancer rates.

But it seems that in order to find the risk factors that really increase cancer, they should be looking at drugs, not foods.

Turns out, calcium-channel blocking blood pressure drugs cause double to triple the risk of breast cancer.[1]

Believe it or not, this finding comes from the Fred Hutchinson Cancer Research Institute in Seattle. The same organization I told you about previously in this issue. The one that just published their clueless study on fish oil and prostate cancer, and then selectively and wildly over-interpreted their suspicious "results."

But now they seem determined to under-interpret their shocking discovery regarding blood pressure drugs and breast cancer.

In fact, they were quick to say there was no reason to change clinical practice in any way. Despite the fact that women who took the calcium-channel drugs for 10 years or more were two-to-three times more likely to develop invasive lobular breast cancer (2.6 times) or invasive ductal breast cancer (2.4 times).

These cancer-causing, calcium-

Continued on page 8...

channel blood pressure drugs are now among the most frequently prescribed medications in the U.S. They account for nearly 98 million of the 678 million prescriptions filled per year.

The Seattle researchers expressed "surprise" at their findings (again, having had no apparent hypothesis, to test in the first place). But other scientists suspect that these drugs increase cancer risk by preventing apoptosis. Apoptosis is a kind of programmed cell death.

Ironically, independent scientists have confirmed that in terms of design and statistical analysis, this was a "first-rate" study. Yet this Center's *poorly* designed, misinterpreted study on fish oil and prostate cancer was shamelessly shouted from the roof tops.

Now they've conducted a better designed study with a drastic conclusion that affects 100 million women, nearly tripling their rate of breast cancer. And what do they conclude? Nothing.

If you are taking a calcium channel blocker for blood pressure, consult with your doctor to see if you might be able to switch to another blood pressure medication. When it comes to choosing a blood pressure drug, the safest course of action is to work with your doctor to choose one that's been around for many years. As I always say, newer is not always better—or safer.

I outlined many of these other drug options on page 4 of my report *The Insider's Secret to Conquering High Blood Pressure and Protecting Your Heart.* You can access this report for free by logging on to the subscriber section of my website, drmicozzi.com, with your username and password.

Just remember, everyone is an individual and may react differently to different medications. It may take some trial and error, with very close monitoring, to find the right medication for you. But the time you invest could very well save your life. IC

Citations available online at www.DrMicozzi.com

NEWS BRIEF

Follow the U.S. Air Force's lead: Skip the flu shot!

Last month, the US Air Force announced it will not be providing flu shots this year. At least not to its civilian employees.

The mission of the US Air Force (as I can still recite from my days as a cadet at the USAF Academy) is "to fly and to fight." And a major flu outbreak could ground the Air Force in no time flat.

So, why are they skipping the flu shot this year? What does the Air Force know that you don't?

Well, for starters, they probably know that, despite what other government health "experts" would like us to believe, the flu is NOT actually very contagious. So vaccinating against it is a waste of time.

Epidemiologists assign a number called the R-0 ("R-nought") to describe how contagious a virus is. This number tells us, on average, how many people someone who has a virus will go on to infect.

Consider smallpox, for example. This virus had an R-0 of 3. So, every person who had smallpox infected three others, on average. Polio is another highly contagious viral infection. It has an R-0 of about 5. And measles is even more difficult to control, with an R-0 of 12 to 18.

The flu has an R-0 of just 1.

That's not very contagious, as far as "epidemics" go.

Why does the influenza virus rank so low? Well, a lot of it has to do with how it spreads.

The influenza virus is a respiratory infection. But it spreads by touch. You must touch a contaminated surface. And then touch your eyes or nose.

However, the virus cannot survive for very long on surfaces. So you have a fighting chance of avoiding infection simply by not touching common surfaces.

Carry your own pen so you aren't picking up contaminated writing instruments at the bank, post office, and especially at the local pharmacy when you have to sign all that paperwork. Wear driving gloves when opening doors and pushing a shopping cart. If at all possible, avoid crowded places during the height of the flu in your area. Particularly crowded airports and airplanes. And, of course, wash your hands frequently. As you'll recall from my previous articles on this topic, plain old soap and water kills the flu virus.

But when all is said and done, the Air Force is right. You just don't need an annual vaccine to stop the spread of this very minor virus.