

***Doctor In Your House Prevention Guide* by Drs. Sheree and Evan Lipkis. Copyright 2019**

A Unique Prevention Guide. Common Questions And Up To Date Answers for Adults.

Most of the data is taken from Mass. General, Journal Watch, Prescriber's Letter and our experience. Topics are alphabetized.

Introduction:

Over our 35 years in practice, we have received so many fine questions that we compiled most of them into this e-book. In addition, we have included many current hot topics and controversial subjects as well. Most of the categories also cover preventative health care so we can keep your health as optimal as possible.

Of course, when you ask a question, the answer is only worthwhile if it will stimulate change. So as the saying goes, *talk is cheap* and so is writing BUT action reigns supreme.

We live in a crazy world dominated by emotion. We see this in politics, the news, our families and even our own interactions. The power of reason separates us from other animals.

Too often in medicine, patients magnify what they read on the internet, hear from their brother in law and see in the papers. Also most people follow their emotions when it comes to health care. "I don't want to see the doctor, I'm fine. I'll get a cold from the flu shot and it doesn't work, No colonoscopy for me; the prep is yucky, I love to eat candy,

Cholesterol medicines are really bad for you, All natural is the only way to go, I got a flyer in the mail from this famous doc who says that this vitamin will cure me.” The list goes on and on.

Logic and knowledge is preciously valuable. Really, it is all we truly have to rescue ourselves and others. So we have done the research and we have nothing to gain but improving your health by showing you the evidence.

Doctor In Your House is a never ending work. Knowledge is infinite and just waiting to be discovered. In fact, medical discoveries are proceeding at an exponential pace and this gives us plenty of hope and excitement.

So we’ve listed all the categories in alphabetical order. Some topics are more complex than others thus we have written in italicized fashion a quick summary under many of the topics. But we would encourage you to read the entire subject.

We hope *Doctor In Your House* will improve your health and longevity. Of course, if you decide to implement a particular medical strategy, please run it by your health care provider.

Sadly, an informal study showed that the average number of medical journals read a month by physicians was a goose egg. Yes, it was a big fat ZERO.

P.T. Barnum once said, “The noblest art is that of making others happy" We hope the knowledge and research contained herein will indeed add years of quality to your life and at the same time add a smile to your face.

Alcohol is it good for you or not?

Moderation is the key. Addiction, cancer and disease are the downside.

Turns out that we don't know the complete answer. The mediterranean diet contains a little alcohol and such a diet prevents many diseases. On the other hand a large study from Lancet (2018) concluded that no level of alcohol is healthy and alcohol remains the 7th leading cause of disability.

Most likely consumption equal to less than one drink a day is probably healthy for the heart.

More than 5 drinks a week may lead to cancer and potential addiction in some individuals. Too much alcohol can actually cause heart rhythm disturbances and even heart failure. Alcohol can impair brain development in teens and causes a wide variety of medical, social and legal issues. In women, per The Nurses Health Study, even 3-6 glasses of wine per week increased the incidence of breast cancer significantly.

On the other hand, according to March 2015 issue of The American Journal of Clinical Nutrition, up to 1 drink a day (light drinking) reduced the onset of diabetes by 17% and 1-2 drinks daily decreased diabetes by 26%.

Best bet is to keep the alcohol consumption to *light drinking*.

But how much is one drink? According to the CDC, a standard drink is equal to 14.0 grams (0.6 ounces) of pure alcohol.

Generally, this amount of pure alcohol is found in:

12 ounces of beer (5% alcohol content).

8 ounces of malt liquor (7% alcohol content)

5 ounces of wine (12% alcohol content).

1.5 ounces or a “shot” of 80-proof (40% alcohol content) distilled spirits or liquor (e.g., gin, rum, vodka, whiskey).

Hangovers after heavy drinking is not healthy since studies show reaction time is impaired as well as long term memory.

So when is alcohol truly a problem? It becomes a problem when it causes physical or social harm such as a DUI, arguments with your family, ulcers, head and neck cancer, liver disease, withdrawal, pancreatitis, and mood disorders.

Campral or Naltrexone can be very effective when combined with a counseling program such as AA. Secondary choices include topiramate and gabapentin. Medicines are a great idea when you combine them with a lifestyle change instead of using the medicine to replace a lifestyle change.

Audit-C screening test for unhealthy use of alcohol.

1. How often do you have a drink containing alcohol?

- a. Never
- b. Monthly or less
- c. 2-4 times a month
- d. 2-3 times a week
- e. 4 or more times a week

2. How many standard drinks containing alcohol do you have on a typical day?

- a. 1 or 2
- b. 3 or 4
- c. 5 or 6
- d. 7 to 9

e. 10 or more

3. How often do you have six or more drinks on one occasion?

a. Never

b. Less than monthly .

c. Monthly

d. Weekly

e. Daily or almost daily

Score- a=0, b=1, c=2, d=3, e=4

Unless all the points come from question 1, a score of 3 or more in women and 4 or more in men predicts unhealthy alcohol exposure which includes abuse and disease. This test is a pretty good screen but no screener is perfect.

Aspirin. Should I take it or throw it out?

Great once you have a cardiac event or stroke but otherwise no gain.

Certainly if you have had a transient stroke (TIA), a stroke or a heart attack, then aspirin 81mg daily can be beneficial. Chewing an aspirin during a heart attack may be helpful. But what if you are just at higher risk?

In the ASCEND trial, high risk patients (diabetics) were divided into two groups. One group took a baby aspirin and the other group took a placebo. For every 100 people treated with aspirin, there is about 1 heart attack or stroke averted but 1 major bleed was caused. Also, in older patients there was excess bleeding and no benefit was seen.

Back Pain. What are the red flags and what works?

Start with non-pharmacological treatments first and then proceed to meds and procedures.

Most back pain is musculoskeletal in nature including a pulled muscle, arthritis, spinal stenosis and herniated discs but please be aware of the rarer red flags too. Red flags affect a small percentage of patients with low back pain and indicate the possibility of a serious underlying condition, such as malignancy, vertebral infection, vertebral compression fracture (from osteoporosis), cauda equina syndrome (spinal cord compression), abdominal aortic aneurysm and ankylosing spondylitis (esp. men younger than 40). Night pain, fever, weight loss, bowel and bladder symptoms and abdominal pain may suggest a red flag and deserves immediate evaluation.

Unless there is a *red flag*, an MRI or CAT scan can be delayed often for over a month because 70-80% of low back pain improves significantly within 4-6 weeks. The MRI must be correlated to the symptoms.

10-20% of patients with acute low back pain will go on to develop chronic back pain.

3 common causes of musculoskeletal low back pain include a pulled muscle, a herniated disc pushing on a nerve and spinal stenosis (pressure on the spinal cord from discs, ligaments and bone spurs).

Step therapy for back pain

-Step 1. Remain active as bed rest beyond 1-2 days is not helpful. Apply heat or cold based upon your preference. Avoid burns by applying heat for 15-20 minutes or less. Acetaminophen or Tylenol doesn't work any better than placebo but can be tried and is a safe option.

-Step 2. In the short term, the following modalities may be useful:

- Acupuncture may improve pain more than function.
- Massage may improve pain AND function.
- Spinal manipulation may improve function more than pain.
- Physical therapy may be considered, especially if pain lasts more than four weeks. Earlier referrals may decrease the likelihood of disability.
- Patients at risk for chronic back pain may also benefit from psychosocial support such as cognitive therapy.

-Step 3. The following meds may be helpful:

- NSAIDS or nonsteroidal antiinflammatories (ibuprofen, naproxen) may be more effective than acetaminophen (Tylenol) but are associated with more side effects such as heart disease, hypertension, gastrointestinal bleeding and kidney disease. Topical NSAIDs don't help with back pain.
- It is still reasonable to try acetaminophen first. Interestingly a study shows that acetaminophen *plus* ibuprofen is equivalent to codeine. So one possible regimen is acetaminophen 500-1000mg 2-3 times a day along with ibuprofen 200-800mg 2-3 times daily. If one NSAID doesn't work then try another or even a third one. An adequate trial probably requires 2 weeks.
- Second-line meds include muscle relaxants. There is no proof that they are any better than NSAIDs but they are superior to placebo for pain relief in the short term. Data are insufficient to establish benefit on function. Such agents can be considered

for prominent muscle spasms (e.g. cyclobenzaprine, methocarbamol) and should be used for 1 week or less. Avoid baclofen or dantrolene due to lack of evidence for low back pain. Dantrolene, tizanidine, and chlorzoxazone may increase the incidence of liver disease. Also, avoid benzodiazepines, carisoprodol, and meprobamate due to abuse potential and addiction. There is also a higher risk of falls due to sedation. Any muscle relaxant can potentially cause grogginess.

- Third-line agents include tramadol and short acting opiates such as hydrocodone or oxycodone. There is no evidence to support the use of opioids for acute low back pain. Risks with opiates include abuse, constipation, nausea and sedation. Weigh the benefits vs. the risks with you health care provider.
- Low doses of the tricyclic antidepressant such as amitriptyline may provide some relief for chronic low back pain, according to a JAMA Internal Medicine study. Sedation and dizziness are possible side effects.
- Controversial agents for more chronic back pain includes gabapentin, pregabalin, epidural steroids, implantable back stimulators, PRP (platelet rich plasma) and stem cells (see our section on stem cells later in this book).

Additional medical data

- Elastic back supports reduced recurrence of low back pain among home-care workers who lift other people. These bands are inexpensive and might work. Most studies show that braces don't prevent back pain.
- Risk for back pain was 50% higher among teens with the heaviest versus lightest backpacks.

- Results of two small trials suggest that yoga is effective for low-back pain.
- Mindfulness-based stress reduction (MBSR) and cognitive behavioral therapy (CBT) are associated with reduced pain and disability in patients with chronic low back pain.
- In a high-quality study, glucosamine was no better than placebo in the treatment of chronic low back pain.
- Abdominal strengthening doesn't seem to help low back pain.
- The FDA has approved an implantable spinal cord stimulation system (marketed as Senza) to help manage chronic intractable back pain, including leg pain, low back pain and failed back surgery. There was about a 50% reduction in pain at 3 months.
- Oral steroids do very little for back pain.
- Duloxetine (SNRI antidepressant) has a modest effect on back pain.
- No long-term benefit was found for leg pain, disability, or back pain with epidural steroids.
- Weight loss may be helpful for pain.

Surgical data

Herniated disc with sciatica or leg pain. May 31st 2007 NEJM and SPORT Trial JAMA. 2006;296(20):2441-2450

The surgical group achieved quicker relief of pain but at 1 year there was no difference between the surgical and nonsurgical group.

In the SPORT Trial the surgical group had better outcomes even at 4-8 years.

In another trial called MLSS (The Maine Lumbar Study), benefits in a similar surgical group were seen for 8-10 years.

Spinal stenosis. SPORT Trial Spine 2010;35(14):1329-38 and Spine 2015;(40) 2: 63-76

Patients with symptomatic spinal stenosis treated surgically compared to those treated non-operatively maintain significantly greater improvement in pain and function through four years. But at 8 years there were diminishing benefits in the surgical group but surgery was still better. In another trial called MLSS (The Maine Lumbar Study) benefits were seen for the first few years in the operative group but at 8-10 years no benefits were seen.

Conclusions:

1. Try conservative therapy first. Even consider PRP (see later under stem cells) as another option if affordable.
2. Failed back surgery happens in 30% of patients. Factors may be misdiagnosis, progression of disease or incomplete surgery.
3. Surgery seems to work well in the larger trials for herniated discs WITH sciatica.
4. For spinal stenosis, surgery can be helpful for the first few years but then there are diminishing returns.

Blood Pressure. What's the sweet spot?

For most people, aim for 130/80

The new ACC/AHA guidelines will place a large burden on both patients and doctors. Stage 1 hypertension is now 130/80 to 139/89. While stage 1 is treated by lifestyle changes, higher risk

individuals should be treated with lifestyle changes plus medication.

Other guidelines still favor the older JNC 7 data which says that under 140/90 is acceptable and if you are 60 or over, then less than 150/90 is fine. JNC 7 was concerned about falls with too aggressive lowering.

Blood Pressure Classification by JNC7 and 2017 ACC/AHA Hypertension Guidelines

Systolic, Diastolic Blood Pressure (mm Hg)	JNC7	2017 ACC/AHA
<120 and <80	Normal BP	Normal BP
120–129 and <80	Prehypertension	Elevated BP
130–139 or 80–89	Prehypertension	Stage 1 hypertension
140–159 or 90–99	Stage 1 hypertension	Stage 2 hypertension
≥ 160 or ≥100	Stage 2 hypertension	Stage 2 hypertension

The Sprint Study released in 2015 showed that higher risk patients (no diabetics in this study) between 50-80 have less heart failure, cardiovascular events and mortality if the systolic pressure (upper number) is lowered to less than 120 versus less than 140. Lower levels also reduced cognitive impairment which

may be a forerunner of dementia. Patients were sitting quietly for 5 minutes before blood pressure readings were taken.

In the ACCORD Trial diabetics were studied and aggressive treatment below 120 was no better than keeping the systolic number under 140.

With kidney disease the goal is less than 130/80.

The Sprint Study seemed to show that the sweet spot for the systolic pressure (upper number) was between 126-139. For example, patients who had systolic readings between 140-149 had a 70% increased cardiovascular risk.

Patients who had systolic readings between 115-125 had a 9% increased cardiovascular risk and a 48% increased mortality. The Sprint study is only one trial.

To simplify, either set of guidelines in the chart above are reasonable to follow and are based upon multiple trials. Given the latest data, docs should aim for pressures around 130/80. If dizziness should arise, then the goals should be adjusted to a higher level.

High blood pressure is called the silent killer because it shows no symptoms at first while it quietly wreaks havoc in the vessels of the kidneys, heart, eyes and brain.

In fact, if we opened up all of our vessels, the surface area would be the same as a football field! The heart pumps blood through our vessels to supply oxygen, energy and nutrition necessary to sustain our organs such as our eyes, brain, kidneys and the heart.

Let's protect our vasculature by controlling our blood pressure. After all, it is the number one way to avoid heart attacks, strokes, blindness and chronic kidney disease.

Recommended strategies to treat this ailment include restriction of dietary sodium intake below 1500 mg per day, weight reduction if the person is overweight or obese, aerobic or resistance exercise for 90 to 150 minutes per week, moderation of alcohol intake (≤ 2 drinks daily for men and ≤ 1 drink for women), and increased intake of potassium-rich foods.

The DASH diet lowers pressure as well and the specifics can be found on the web. It is similar to the Mediterranean diet, which is the healthiest diet in the world. Each of these lifestyle interventions is likely to reduce systolic pressure by 3 to 8 mm Hg and diastolic pressure by 1 to 4 mm Hg.

Minimize factors that can elevate pressure such as a full bladder, talking during measurement, recent nicotine use, caffeine, pseudophed, steroids, antiinflammatories and stimulants. These factors can bump systolic BP up to 25 mmHg. Taking the pressure quietly while sitting at home can be very helpful for the doctor.

Cannabis. Is it good, bad or just plain ugly? (Studies from 2013-2018)

Alcohol is a drug that isn't approved for medical use and marijuana is a drug that doesn't have great data for medical use. Approved recreational use like in Canada would allow patients to try it for their conditions without approval but like alcohol, there are downsides.

Here are some summary points regarding cannabis studies taken from Journal Watch. We included the good (not much) with the bad. Clearly better trials are needed. Cannabis contains a

psychoactive portion called THC (Delta-9-tetrahydrocannabinol) and a non-psychoactive part called CBD (Cannabidiol).

THC is legal in some states but remains illegal by federal law. It has the following positive effects:

- Analgesia
- Antiemetic
- Appetite stimulation
- Muscle relaxant

CBD is legal in just about every state. CBD may have the following beneficial effects:

- Analgesia
- Anticonvulsant
- Anti-oxidant
- Anxiolytic and antipsychotic effects
- Muscle relaxant
- Neuroprotective
- May reduce undesirable effects of THC when used together or in a combination product (e.g., sedation, paranoia).

In the US, the following products are FDA approved and expensive:

- THC-based products (synthetic): Most often used to reduce refractory chemotherapy-induced nausea and vomiting.
 - Dronabinol (U.S. only; Marinol, generics, Syndros)
 - Nabilone (Cesamet, generics [Canada only])
- CBD-based product: Used to treat certain types of refractory childhood-onset seizures due to Dravet and Lennox-Gastaut syndromes.
 - Cannabidiol (Epidiolex [U.S. only])

CBD is allowed to be sold but is not approved to treat any illness.

Here is a tabulation of recent marijuana studies (THC plus CBD)

—Cannabis use in individuals with mood and anxiety symptoms seems to be a “Band-Aid” strategy that may temporarily improve acute symptoms while worsening outcomes in the long run.

Absolutely no study suggests cannabis use as a viable therapeutic strategy for anxiety and depression.

—A cleverly designed trial demonstrated the pain-relief benefits of smoked marijuana in patients with HIV-associated sensory neuropathy. There is evidence that medical marijuana may help with cancer pain. Certain oral cannabinoids improved muscle spasms in patients with multiple sclerosis. A small study showed that migraine pain could be cut by 40%. Two small studies showed some efficacy for fibromyalgia and Parkinsons. Much more data is needed.

—A meta-analysis suggests that cannabis use is associated with a 40% increased risk of psychosis in later life.

—Teens who use cannabis even occasionally are more likely to misuse other drugs and alcohol in early adulthood, according to a trial.

—Periodontal disease can now be added to the list of potential adverse effects of marijuana smoking.

—Approximately 9% of users may become dependent and have withdrawal symptoms, irritability, craving, dysphoria, insomnia, etc. So it could be a gateway drug.

—Cannabinoids appear to reduce the emotional response to pain.

—Some 9% of U.S. middle and high school students have used electronic cigarettes to vaporize cannabis, according to a research letter in *JAMA Pediatrics*.

—An FDA advisory panel voted unanimously to recommend approval of a cannabidiol product to treat seizures caused by Lennox-Gastaut and Dravet syndromes. These are rare seizure disorders that begin in childhood.

—Evidence on whether marijuana is associated with increased or decreased cardiovascular risk is lacking, according to a review in the *Annals of Internal Medicine*. But it may be associated with death from high blood pressure.

—Acute intoxication from use of synthetic cannabinoids (such as K2 and Spice) increased across the U.S. from 2010 to 2015, according to an *MMWR* analysis. Today these agents are also associated with severe bleeding disorders.

—During the 20-year study period, the amount of THC in cannabis tripled, from 4% to 12%.

—Most medical marijuana studies were poorly done. Investigators found moderate-quality evidence that cannabinoid use might benefit patients with chronic pain or muscle spasticity; they found low-quality evidence that marijuana use prevents nausea and vomiting secondary to cancer chemotherapy, leads to weight gain in patients with HIV, promotes uninterrupted sleep, or lessens tic severity in Tourette syndrome.

No evidence of benefit was shown for several other conditions, including depression, anxiety disorder, psychosis, hepatitis C infection, Crohn's disease, Parkinson disease, and glaucoma; at least some of these are indications for which marijuana use is legal in some states. Cannabinoids were significantly more likely

than placebo to be associated with dizziness, nausea and vomiting, sleepiness, disorientation, confusion, and hallucinations.

—Researchers analyzed 22 studies in which people aged 12 years and up who had used marijuana on at least 30 days were compared with nonsmokers. Overall, marijuana use was associated with increased risks for cough, sputum production, and wheezing.

—Cannabis is associated rarely with recurrent vomiting.

—Acute cannabis use raises risk for motor vehicle accidents by several fold.

Cholesterol. What are the guidelines? Is a stress test worthwhile? What do you think of the coronary calcium score?

Most reduction in risk occurs with lowering the LDL down to 100. So 100 is a great goal. With more risk factors and cardiac events, go even lower.

The 2017 AACE guidelines are complex but easier to understand than most of the other guidelines.

1. Determine your risk factors. The major risk factors are high blood pressure, age, diabetes, smoking, family history of early heart disease, advanced kidney disease, elevated LDL or bad cholesterol etc.

Major risk factors	Additional risk factors	Nontraditional risk factors
Advancing age	Obesity, abdominal obesity	↑ Lipoprotein (a)
↑ Total serum cholesterol level	Family history of hyperlipidemia	↑ Clotting factors
↑ Non-HDL-C	↑ Small, dense LDL-C	↑ Inflammation markers
↑ LDL-C	↑ Apo B	(hsCRP; Lp-PLA ₂)
Low HDL-C	↑ LDL particle concentration	↑ Homocysteine levels
Diabetes mellitus	Fasting/postprandial	Apo E4 isoform
Hypertension	hypertriglyceridemia	↑ Uric acid
Stage 3 or 4 chronic kidney disease	PCOS	↑ TG-rich remnants
Cigarette smoking	Dyslipidemic triad	
Family history of ASCVD		

2. Figure out your risk based upon the risk factors:

EXTREME RISK

- having progressive heart disease even with an LDL less than 70 or
- established heart disease with diabetes and advanced kidney disease and/or heterozygous, familial high cholesterol (a genetic syndrome) or
- a personal history of heart disease (male under 55, female under 65).

VERY HIGH RISK

- established or recent history of coronary disease, stroke or vascular disease in the lower extremities or
- either diabetes or advanced kidney disease with one or more additional risk factors or
- heterozygous, familial high cholesterol (genetic syndrome)

HIGH RISK

- 2 risk factors or more or
- diabetes or advanced kidney disease or
- 10 year risk of heart disease between 10-20%-<http://www.cvriskcalculator.com>

MODERATE RISK

- 2 risk factors or more or
- Diabetes or advanced kidney disease or

- 10 year risk of heart disease less than 10%-<http://www.cvriskcalculator.com>

LOW RISK

- Zero risk factors

	LDL Cholesterol	Total Cholesterol	Triglycerides	HDL Cholesterol
Extreme Risk	<55 mg/dL	<200 mg/dL	<150 mg/dL	>40 mg/dL (as high as possible)
Very High Risk	<70 mg/dL			
High Risk	<100 mg/dL			
Moderate Risk	<100 mg/dL			
Low Risk	<130 mg/dL			

3. Establish your category which will tell you your LDL goal.

4. Use lifestyle modification and medicines (if necessary) in order to meet the standards set forth in the above chart. If you are at low risk (no risk factors), keep the LDL below 130. On the other hand if you are at extreme risk, keep the LDL below 55.

We have boiled down many pages of guidelines into just a few paragraphs. Let's say you had a heart attack only. Your risk is *very high* and the LDL goal is less than 70.

What if you are 65 and have 2 risk factors such as high blood pressure and hyperlipidemia (elevated LDL cholesterol) you go to <http://www.cvriskcalculator.com> and find out that your risk is 15% in 10 years of having a cardiac event. You are at high risk and the goal is an LDL less than 100.

The good cholesterol or HDL remains a black box. People can have elevated HDLs and still get heart disease because the HDLs might be lazy and not remove plaque from our arteries. Right

now, LDL is the most important value in the cholesterol profile and does not require fasting.

Admittedly, per the April 17th edition of JAMA, 2018 the most benefit comes from getting the LDL down to 100 and then smaller benefits are realized with further lowering. Statins are cheap and reduce heart attacks, strokes and coronary bypass surgery. They can lower LDL by up to 50%.

Ezetimibe (Zetia) has been shown to reduce heart attacks in high risk patients and lowers the LDL by an additional 25% per the Improve-It trial.

Newer agents called PCS-K9s (Repatha and Praluent) are costly but can reduce plaque and cardiac events as well. They are injected every 2-4 weeks and are easy to use. These agents can lower LDL by 60% when added to a statin.

Sometimes it's hard to decide the your level of risk. Under these circumstances, one can do a coronary calcium score as seen below or look at a few inflammatory biomarkers such as HS-CRP or LP-PLA2 in the blood. High values in any of these tests would warrant more aggressive treatment.

We also like to measure the direct LDL particle count. 50% of patients have a normal LDL concentration with the usual measurement that your doc performs, but the LDL particle count or LDLp can be high and lead to increased cardiac risk.

Here is an example of why this is so important. Tim Russert was the host for 'Meet The Press' for many years but died of a heart attack back in 2008. His regular LDL concentration was 67, which was amazingly good. So why did he die? Post-mortem, his blood was measured for LDLp or the actual number of bad particles. Turns out that this value was nearly 3000, which was

sky high. We like to see an LDLp under 1000 in patients with higher cardiovascular risk.

If you are already on a statin and your triglycerides (fats) are borderline or high, the Reduce It study shows a 25% reduction in heart attacks by adding pharmaceutical grade fish oil such as Vascepa.

So many people have cardiac risk factors such as smoking, high blood pressure, obesity, early family history of heart disease, kidney disease, sleep apnea, diabetes or pre-diabetes, elevated LDL cholesterol, and even depression/stress, yet they won't take a medicine or change their lifestyle to reduce that risk.

Consider basing your beliefs on overwhelming medical evidence because it's all we have right now. In fact, driving a car is far more risky than cholesterol meds. 1 out of 60 get in an accident and 1 out of 6000 die in an accident yearly. The chances of dying from a statin are 1 out of 30 million.

If you refuse to believe that you are at moderate or high risk for vascular diseases (stroke, heart attack, kidneys disease, eye vessel diseases), then in addition to the above biomarkers, get a rapid coronary CAT scan. This test takes about 5 minutes and only costs \$50 at Lutheran General Hospital. It will tell you how much cholesterol plaque you have in the coronary arteries of your heart compared to people of your own age. If you have a lot of age-adjusted plaque, then maybe this will serve as a visible indicator to treat your vessel problem with more aggressive lifestyle interventions or a specific medicine.

In fact, a significantly abnormal rapid coronary CAT scan is an independent risk factor for heart disease. So this test is very useful but usually not necessary. If you already know your risk category as seen in the above chart, and you're willing to take action, then this test is just superfluous. But if you just cannot

accept that you are at high risk or just don't want cholesterol lowering medications, then the coronary calcium score may help you to decide in an objective manner.

A stress test is a poor screen for coronary disease. In fact, it only detects blockages of 80% or more. And a heart attack can occur with a 30% blockage because cholesterol plaque can suddenly rupture, bleed and then form an obstructing clot. So the best way to prevent a heart attack is to reduce the risk factors which include smoking, stress, obesity, elevated sugars, high LDL cholesterol and high blood pressure.

Cervical cancer screening. When should I stop? What about the new vaccine?

Get the vaccine and obtain regular paps and HPV screens.

Pap smears save lives by detecting cervical cancer early or even before it develops. It can also detect other female tract cancers but the test is primarily used to screen for cervical cancer. The biggest risk factor is the sexually transmitted HPV virus. There are 14 million new cases per year in the USA. Barrier contraceptives can help prevent the spread of the virus.

Women aged 30–65 should undergo cervical cancer screening with either a pap smear (cervical swab) alone every 3 years or high-risk human papillomavirus (HPV virus screening) testing alone every 5 years, according to guidelines (USPTSF).

Women aged 21–29 should be screened every 3 years with a pap smear alone. And the following groups should not be screened:

- Females younger than 21.

- Women older than 65 who've already been screened sufficiently.
- Women who've had their cervix removed during hysterectomy.

The recommendations apply to average-risk females (e.g., no history of high-grade precancerous lesions), regardless of their sexual history or HPV vaccination status.

The HPV vaccine can effectively prevent cervical cancer. Gardasil 9 is FDA approved in both sexes from ages 9-45 for the prevention of genital warts as well as cervical and anal cancers. Even if you have venereal warts (caused by HPV virus), vaccination can still prevent other viral strains that can cause cancer. Since the previous Gardasil vaccine covered 4 cancer causing HPV strains, it might make sense to vaccinate with Gardasil 9 because 5 extra cancer causing strains are covered. Screening can stop at ages 65-70 if 3 pap smears over the previous 10 years are fine.

Chocolate. Should I eat it? What are the benefits and the risks?

A little goes a long way but a lot goes to your belly.

The raw cocoa bean is called cacao and the processed bean is called cocoa. Cocoa has no cocoa butter while cacao has a bit of healthy fat and sugar.

This fat is a healthy saturated fat and cacao has been utilized in most of the clinical studies as opposed to dark chocolate.

Chocolate is made from cocoa and sometimes lots of unhealthy fat and sugar is added.

But dark chocolate has less fat and sugar compared to milk chocolate and is healthier.

Probably the benefits of cocoa and dark chocolate are similar to cacao but cacao is the least processed.

The September 20, 2011, BMJ shows a meta-analysis of any chocolate. There was a 37% reduction in heart disease, 31% reduction in diabetes and a 29% reduction in stroke if chocolate was consumed 5 times or more a week.

We believe dark chocolate is a better idea as there are less calories but still, a 3.5 ounce dark chocolate bar contains 11 grams of fiber, lots of minerals AND a whopping 600 calories. Plan not to gain weight otherwise the effects may be mitigated a bit.

Chocolate lowers blood pressure by a few millimeters and improves blood flow. It is one of the few saturated fats that both increases the good cholesterol or HDL and reduces oxidized LDL or bad cholesterol. One study showed that it might improve vision!

This stuff also improves blood flow to the brain and may help to reduce the progression of dementia.

Aim for 60% or more of dark chocolate or just buy cacao bits although these bits are more bitter. Cacao nibs are just the shelled cacao beans and have little to no processing as compared to cocoa.

Coffee. Is it the healthiest beverage to drink?

Wake up to coffee and rejoice!

Two studies reported in the July 10th 2017 Annals of Internal Medicine that coffee drinkers have a significant reduction in all-cause mortality. Moderate coffee drinking can help nearly every

system of the body unless the stomach gets irritated from the coffee bean or you become wired as a result of the caffeine.

Specifically, studies have suggested that drinking coffee is associated with many health benefits, such as longevity, decreased blood pressure, less weight gain as we age, and a reduction in risk for developing multiple diseases, including type 2 diabetes, liver disease, heart disease, several degenerative neurological diseases (like Parkinson's disease), and cancer.

These results were verified in the Nov. 22, 2017th issue of The BMJ. The greatest health benefits were associated with drinking three to four cups of coffee per day; however; the trial found that women who drank coffee had increased risks for fracture and pregnancy complications.

Still, coffee is a great beverage but we will need randomized controlled studies to confirm the findings

Colds. After all these years, doesn't anything work?

Zinc, washing hands, chicken soup, fruits, vegetables, exercise, sleep and vitamin C under certain circumstances may help.

The common cold costs the US 50 billion dollars yearly. There are over 200 different virus strains that can cause this disease with the most common one being the rhinovirus.

The common cold is a major cause of absenteeism from both work and school. It is also the leading cause of doctor visits in high-income countries.

Of note, is that a cold usually involves a cough, sore throat, runny nose, possibly low grade fever and fatigue. The phlegm is often

discolored. Phlegm discoloration can be viral or bacterial and simply means that your immune system is attacking the infection. *Other medical problems can mimic a cold.*

For instance, allergies usually involve nasal itching, minimal fatigue and clear or white sputum.

The flu usually manifests with predominantly muscle aches and higher fever and cold symptoms are often milder.

Strep throat and mononucleosis are seen primarily in children and young adults. Throat pain, fever, fatigue and absence of cold symptoms predominate in both these ailments.

Finally, pneumonia usually involves fever, fatigue, marked coughing and sometimes shortness of breath. Levels of a measurable substance called procalcitonin can help to distinguish between a cold and a bacterial infection as noted in the Oct. 2017 issue of The Lancet Infectious Diseases. Higher levels favor a bacterial infection while lower levels favor a virus.

Since colds are caused by viruses, antibiotics don't work against them. Still, that does not stop the quest for a cure. Likely antiviral agents will eventually be developed. Unfortunately the common cold contains hundreds of viral strains. Many of the viruses that cause a cold are from the family of rhinoviruses.

Treatment

Vitamin C.What about treating a cold with vitamin C? Nearly 10,000 colds and 31 studies explore the effects of Vitamin C upon the treatment of the common cold. The conclusions: for adults, an

8% reduction in the length of cold symptoms and nearly twice that for kids, a 14% reduction.

Zinc. A Cochrane data based meta-analysis of 966 patients performed in 2011 revealed that zinc supplementation within 24 hours can reduce the symptoms of a cold by 1 day. The dosages used varied. It is suggested to use zinc lozenges since it can attack the rhinovirus directly in the mouth and throat. Consider using zinc 13-23 mg every 2-4 hours while awake and not for more than one week. Avoid in children. Side effects include metallic taste and nausea.

Vitamin C plus Zinc. Two studies were analyzed regarding this combination as reported by J Int Med Res. 2012; 40(1):28-42 (ISSN: 1473-2300). 1000 mg of vitamin C plus 10 mg of zinc was given daily. Vitamin C plus zinc was significantly more efficient than placebo at reducing the symptoms of a runny nose. Symptom relief was also quicker and the incidence of adverse effects was quite low.

Juice/Vegetable Powder. According to British Journal of Nutrition, 2011; 105(1):118-22 (ISSN: 1475-2662), 4 pills daily of juice and vegetable powder reduced the duration of moderate to severe cold symptoms by 2 days. Once again, fruits and vegetables triumph!

Echinacea. According to an article in Medscape. May 12, 2011(Echinacea and the Common Cold -- Can We Stop Sneezing Now?), this herb was slightly better than placebo but did not reach statistical significance. There was a 10% reduction in cold severity and the duration of the cold was reduced by 1/2 day. So at the most, Echinacea has a very mild effect on cold symptoms and duration.

Antiinflammatories. According to a Cochrane database review in May of 2009, antiinflammatories can be helpful in relieving aches, pains and fever. Examples include OTC ibuprofen, 1-3 tablets 3 times daily as needed or OTC Aleve, 1-2 tabs twice daily. Take with food to avoid an upset stomach.

Chicken soup. An Israeli study supports that chicken soup can decrease cold symptoms perhaps due to the heated liquid or the vegetable content.

Intranasal steroids. According to Zalmanovici Trestioreanu A, Yaphe J. Intranasal steroids for acute sinusitis. Cochrane Database Syst Rev. 2013;(12):CD005149, intranasal steroids reduce the symptoms of sinusitis more effectively than placebo treatment whether on antibiotics or not. Oral steroids (dexamethasone 10mg single dose) significantly reduced the pain from a sore throat in adults not taking antibiotics.

Prevention

Vitamin C. A Cochrane data base review of vitamin C in more than 11000 patients in 72 trials, a dosage of 200 mg or higher only reduced the incidence of colds by 3%

For those under high physical stress -- marathon runners, skiers, and soldiers doing sub-Arctic exercise -- the results were dramatically different. The extra vitamin C in these patients cut the incidence of colds in half.

Vitamin D. In a study featured in the Feb 15th, 2017 issue of BMJ, patients with vitamin D levels less than 25, were helped by vitamin D supplementation. In other words, such an intervention helped to prevent colds. 532 studies were reviewed.

Probiotics. (good bacteria for our gut), According to 13 randomized studies, probiotics seem to reduce the incidence of upper respiratory infections and antibiotic prescription rates. The evidence is of moderate quality. The probiotic should contain an antibiotic strain called lactobacillus acidophilus. Apparently probiotics taken preventively might mobilize cells from the intestine to aid in respiratory immunity.

Sleep. Obtaining less than 6 hours of sleep per night increases your risk of acquiring a cold by 4 fold according to a 2015 trial. Sleep is restorative for the immune system and allows it to reenergize.

Miscellaneous. Hand-washing, covering your mouth and using separate towels helps to prevent the spread of a cold.

Additionally, gargling with plain water, according to the 2005 Journal of Preventive Medicine can effectively reduce the incidence and severity of colds. Gargling may also help reduce the severity of a cold at the time of the infection.

This doesn't make a lot of sense to us because people could just drink water and that should do the same thing. It might make more sense to gargle with mouthwash in order to prevent or perhaps treat a cold. At least mouthwash kills bacteria. Nasal irrigation can help patients who recurrent sinusitis.

Lifestyle. In the July 2012 edition of the Annals of Family Medicine, both exercise and meditation independently helped to reduce the duration and severity of a cold if practiced regularly.

As you know, there is no cure yet, however, here are a few pointers to help you reduce the nagging symptoms. Avoid, if

possible, antibiotics for the 1st 2-3 weeks, since colds are due to viruses and antibiotics only work on bacteria.

The CDC doesn't even advocate antibiotics for acute bronchitis since most are viruses. Bronchitis is an infection of the tubes of the lung. Pneumonia, on the other hand, should be treated immediately with antibiotics. Pneumonia is an infection in the lung tissue and often there is fever, incessant coughing, shortness of breath and fatigue. A Chest X-Ray will often show it.

If there is sinusitis and significant fever (102 degrees or more), then antibiotics are recommended. Additionally, if after 5 days or so sinusitis gets markedly worse, then antibiotics are also advocated. Only 5-7 days of an antibiotic are now recommended for sinusitis.

Early treatment with antibiotics will only cause bacterial resistance in our population. Antibiotics can cause yeast infections, allergic reactions, tendonitis, gastrointestinal disturbances etc. Your doc might want to treat for cold symptoms if you have COPD, diabetes, ear disease or if you are immunocompromised.

Treating symptoms-evidence is poor quality for symptom relief but here are a few suggestions.

GENERAL SYMPTOMS: Consider chicken soup daily (recommended by the MayoClinic) as it may reduce the symptoms of a cold. This was discussed earlier.

STUFFY NOSE: Claritin (loratadine) can help with a stuffy nose without sedation. Afrin nasal spray or the generic, oxymetazoline,

can be used for 5-10 days as well but can cause rebound stuffy nose after 10 days of use. Administer it once or twice daily.

Benadryl (diphenhydramine) or chlorpheniramine are sedating antihistamines which have more drying action than Claritin and may cause drowsiness. Pseudoephedrine or other decongestants (phenylephrine) can be added usually without sedation but they can cause palpitations, insomnia and shouldn't be used in men with enlarged prostates or patients with uncontrolled blood pressure and heart disease.

COUGH: Delsym can be used for cough. This syrup is over the counter and probably works as well as codeine. There is little to no sedation. A prescription for Robitussin AC can help as it has codeine, a cough suppressant. Plain honey...up to 2 teaspoons at bedtime or as needed. There's some evidence it reduces cough in kids and it may be worth a try in adults.

REDUCING DURATION: Please see the clinical studies listed above.

FEVER AND PAIN: Acetaminophen (Tylenol) can be used at 1-2 tabs (each 500 mg) up to three times daily. Ibuprofen (200mg) may be added to acetaminophen at 2 tablets four times daily with food. Do not take more than 3000 mg of Tylenol (acetaminophen) or 2400 mg of ibuprofen in a single day. Take ibuprofen with food as it may upset your stomach. Don't take it with any other anti-inflammatories such as Aleve, Celebrex or meloxicam.

SORE THROAT: Cepacol Lozenges can help. Warm salt water gargles, ibuprofen and Tylenol may also decrease the symptoms. Warm liquids, such as chicken soup, can be soothing.

OTHER SYMPTOMS: Try Imodium 1-2 pills 4 x daily as needed for diarrhea. Pepto- Bismol can be used for nausea. If you have mainly muscle aches, fever and cough then you might have the flu. Tamiflu may reduce the duration if given within 48 hrs and you are at higher risk (see flu under vaccines)

Summary

While we have no cure for the common cold, zinc, chicken soup, gargling, and juice extract may help to reduce the duration. Vitamin C is minimally effective.

On the prevention side, getting adequate sleep and vitamin D may be beneficial. Probiotics may also help and vitamin C may prevent colds but only under great stress or Arctic weather. Finally, exercise, gargling and meditation may also be effective for prevention.

Colon cancer screening; Does it make any difference?

Cut colon cancer by 60%. Just do it!

Actually, colonoscopy cuts the incidence of colon cancer by 60%. Here are the American Cancer Society guidelines for 2018 for average risk patients:

- People at average risk of colorectal cancer should start regular screening at age 45. If nothing is found repeat colonoscopy can be done every 10 years.
- People who are in good health and with a life expectancy of more than 10 years should continue regular colorectal cancer screening through the age of 75.
- People ages 76 through 85 should make a decision with their medical provider about whether to be screened, based on

their own personal preferences, life expectancy, overall health, and prior screening history.

- People over 85 should no longer get colorectal cancer screening.

Higher risk individuals include patients with a history of colon polyps/colon cancer, a strong family history of colon cancer, inflammatory bowel disease and a genetic syndrome such as Lynch syndrome (Hereditary nonpolyposis)

Such patients may need earlier and more frequent screening.

Stool tests for microscopic blood can be done yearly to enhance detection. DNA stool tests can be done every 3 years to help detect colon cancer. While both of these tests are useful, a colonoscopy still needs to be done if either test is positive.

Remember that colonoscopy picks up polyps which can be forerunners of colon cancer while stool DNA is only accurate at detecting colon cancer and is much less accurate at detecting polyps.

If you won't do a colonoscopy then perhaps a flexible sigmoidoscope (only an enema is needed for preparation with this shorter scope) and a DNA stool test every 3 years might be an alternative.

Finally, surveillance is different than screening. Surveillance means that you are doing repeated colonoscopies because of a previous polyp or colon cancer. Often surveillance is done much more frequently than screening. Let's say that your GI doc found 6 small benign polyps at age 45. The doc will now ask that you have another colonoscopy for surveillance in 3 years whereas if nothing was found, screening could be repeated in 10 years.

Surveillance colonoscopy may be stopped when a patient's age or co-morbid medical conditions would limit life expectancy to less than 10 years.

Dental Tips. Can you brush away heart disease?

It takes discipline to floss and brush but it pays dividends.

The plaque that forms in your teeth also accumulates in your heart. In fact, gingivitis or gum inflammation is a causative factor for coronary artery disease or blockages in the heart.

Interestingly, inflammation from periodontal disease can lead to inflammation in other organs thus elevating cancer risk. For example, postmenopausal women with periodontal disease had excess risk for cancer of the breast, lung, esophagus, and gallbladder and even melanoma. Bacteria from the gums can be found in some of these tumors.

Additionally, brush your teeth with an electric toothbrush since more plaque can be eliminated this way as opposed to a regular toothbrush. Make sure that you get your teeth cleaned at least twice yearly, floss daily and obtain periodic dental X-rays. Less plaque means less vascular disease.

Depression. What are the most common symptoms of depression and are pharmacogenetic tests useful?

Depression is a biochemical disorder that can be treated with therapy, medicines and procedures.

Depression is a chemical disorder of the brain that is both genetic and related to stress. Concentration difficulties and decreased enjoyment are the most common symptoms.

Depression is not being crazy. It is chemical disorder. Abe Lincoln, Winston Churchill, John Lennon and many other famous people have had this disease. You are not crazy if you have heart failure nor are you crazy if you have a chemical disorder of the brain.

Cognitive behavioral therapy, exercise (especially resistance exercises), mindful meditation, a Mediterranean diet, medicines, transcranial magnetic stimulation (magnetic waves), ketamine (an anesthetic), light therapy and electro shock have all been useful treatments.

Pharmacogenetic testing looks at your genes to predict levels of antidepressants. But for now, there's not enough evidence that testing translates to improved outcomes for most mental health conditions. Plus testing may cost patients 300 hundred dollars out of pocket even if payers cover a portion.

Perhaps it's worth considering in certain cases, such as individuals who don't respond to usual antidepressant doses or individuals who have significant side effects with low dosages.

Depression Screener

Scoring: add up all checked boxes on PHQ-9 For every
Not at all = 0; Several days = 1;
More than half the days = 2; Nearly every day = 3

Total Score

1-4 Minimal depression

5-9 Mild depression

PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

NAME: _____ DATE: _____

Over the last 2 weeks, how often have you been bothered by any of the following problems?
(use "✓" to indicate your answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself	0	1	2	3

add columns + +

(Healthcare professional: For interpretation of TOTAL, please refer to accompanying scoring card). TOTAL:

10. If you checked off *any problems*, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all _____
Somewhat difficult _____
Very difficult _____
Extremely difficult _____

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A2663B 10-04-2005

10-14 Moderate depression

15-19 Moderately severe depression

20-27 Severe depression

Diabetes. How do you diagnose diabetes? What are the goals? What are the best drugs to use based on the science?

Diabetes is rampant and increasing. With new cardioprotective and effective agents, we can help protect the heart and markedly decrease the use of insulin in type 2 diabetes.

Diabetes is on the rise. It is defined by a fasting sugar greater than 125. Even a random sugar of 160 or more indicates diabetes. Also, an A1C (average sugar over 3 months) of 6.5% or greater defines diabetes. Type 2 diabetes makes up 80% of diabetics and is often precipitated by obesity and genetics. Type 1 diabetes makes up 20% and almost always requires insulin. Type 1 is likely an autoimmune disorder.

Prediabetes is a fasting sugar of 100-125 or an A1C of 5.7%-6.4%. Elevated sugar is a risk factor for disability, strokes, heart attacks, dementia and even cancer.

If you have diabetes, get an eye exam at least yearly, check your feet for sores daily, monitor your own sugars, obtain an A1C every 3 months and a lipid profile every 6-12 months.

An ACE inhibitor drug can help to prevent heart attacks and strokes in diabetics especially if there is protein in the urine. Exercise and follow a low carb diet. Aim for an A1C of 7% or lower. If you have had long standing diabetes or you are elderly, consider a goal of 7-8%.

A few anti-diabetic agents reduce cardiovascular events and include metformin, Victoza, Trulicity, Bydureon (GLP1 agents) and Jardiance, Invokanna and Farxiga (SGLT2 agents) and pioglitazone (TZD agents).

It makes sense to use these medicines in diabetics as such patients are at higher risk for heart disease. Also, both TZDs and

GLP1 medicines can help protect the beta cells in the pancreas which produce insulin. These drugs can help slow or arrest the progression of type 2 diabetes.

Diet and exercise can prevent diabetes according to the DCCT Study.

What's all the buzz about continuous glucose monitoring?

FreeStyle Libre is an example of personal continuous glucose monitoring (CGM) for diabetes.

How do continuous glucose monitors work? You wear a sensor which contains a fine needle which is placed on the arm or abdomen. It is changed every 6 to 10 days. The sensor checks glucose every one to 5 minutes.

This can mean fewer finger sticks for patients who check glucose often such as those on an insulin pump or multiple insulin injections.

Some monitors connect to insulin pumps, and most automatically record sugars every few minutes. FreeStyle Libre is a bit different. It doesn't connect to a pump and is a "flash" system. This means that the sensor must be scanned with a reader to view and save results.

All continuous glucose monitors help track trends and patterns of the blood glucose.

Most evidence is that these monitors are useful in type 1 patients but also type 2 diabetics on multiple insulin injections with poor sugar control may utilize it.

But FreeStyle Libre does NOT automatically alarm for low or high glucose like other monitors, so it's not ideal for hypoglycemia unawareness. Finally, these devices are convenient but costly.

Diet. What is all the hype about the ketogenic diet? Is it better than the Mediterranean diet?

The ketogenic diet works well for short term weight loss but the Mediterranean diet is the healthiest diet that exists for warding off disease.

Recently, many of our patients have been asking about a ketogenic diet. Actually, this diet has been around for a 100 years and has been utilized to treat drug resistant seizures. Dr. Atkins also used it in the 1970s.

Essentially it is a diet high in protein and fat but low in carbs. Our cells usually use sugar as an energy source but with this diet our cells begin using fat as their primary energy source.

So stored fat gets broken down into ketone bodies and the process is called ketosis. The ketones soon become the source for energy. Ketosis takes about 2-4 days to develop and requires limiting the carbs to 20-50 grams a day.

This diet consists of meats, eggs, butter, seeds, cheese, sausage, nuts, fish but very few fruits and vegetables. Also some of the fats are unhealthy.

High protein diets may worsen kidney disease and some people may develop fatigue, bad breath, constipation, nausea and vomiting. Also lots of red meat may lead to excess cancers and heart disease.

The good news is that the diet helps with seizures in children and thus it might be neuroprotective. Could it help Alzheimer's, brain cancer, MS and Parkinson's? We don't have any studies yet.

There is greater weight loss initially as compared to a healthier Mediterranean diet which contains fruits, vegetables, fish, nuts, chicken, a little alcohol and whole grains. Over time the weight loss attributed to each of these diets is similar.

Initially the ketogenic diet may raise the cholesterol but it usually goes down with time. In the short term, it does improve blood sugar. The Mediterranean diet has more long term benefits such as the reduction in heart disease, stroke and dementia.

Energy Drinks. Are they safe?

We don't think so.

These drinks generally contain three different ingredients which include caffeine, sugar, and a propriety energy mix that can contain amino acids such as taurine, glucose precursors, and vitamins, all often at exceedingly high doses.

Energy drinks can raise blood pressure 12-14 points and increase the pulse by 12 beats per minute. On top of that, these agents reduce the ability of a blood vessels to dilate by 50% which can impair healthy blood flow. Often young people combine these drinks with alcohol and then attempt to do athletic stunts but reaction time becomes depressed from the alcohol.

Exercise. What are the benefits? What if it is boring?

Exercise can reduce depression, anxiety, obesity, cancer, heart disease and probably memory loss as well. Make it fun by competing with yourself (a step counter), participating in sports or joining a class. Walking with a friend is fine too. High intensity exercise is not necessary. In fact, just walking 20 minutes a day is highly effective in reducing heart disease.

Recommended levels of exercise according to the World Health Organization (WHO) includes 150 minutes a week of aerobic exercise and 2 days a week doing weights with large muscle groups.

So what's the best exercise? We get asked this all the time. It's the one that you'll do! It's that simple so just get started, make it fun and maintain this great habit.

Falls. What can be done?

Disease, medications and hazards in the home need to be reviewed.

One in 4 people age 65 and older will fall every year which leads to about 7 million injuries and over 27,000 deaths.

Falling is not a normal part of aging.

Your doc can evaluate gait, strength, and balance with quick screening tools such as the *Timed Up and Go test*.

If it takes 12 seconds or more to get out of a chair, walk 10 feet, return to the chair and sit down, then fall risk is increased.

Medications with a higher incidence of falls include:

- Benzos like alprazolam, diazepam, lorazepam
- Any sleeping pill
- First generation antihistamines such as diphenhydramine (Benadryl), meclizine, chlorpheniramine
- Antidiabetic meds that can cause low blood sugar include sulfonylureas, insulins
- High blood pressure agents can cause dizziness especially upon standing.
- Sedating antidepressants such as mirtazapine or amitriptyline
- Sedating antipsychotics

Regular exercise, rising slowly, utilizing good lighting, using grab bars, having elevated toilet seats, and removing throw rugs may be helpful. Tai Chi has evidenced based data to help prevent falls. Using an assistive device such as a walker can be useful.

800 or 1,000 IU/day of vitamin D may reduce fall risk possibly by improving muscle strength and balance.

Finally, an eye exam looking for changes in vision or cataracts can be helpful as well as a general exam assessing strength, sensation (peripheral neuropathy) and balance.

In dementia patients, restraints actually increase the risk for injury.

Home health services will often do a fall assessment that is covered by Medicare.

Good Fats, Bad Fats

Avocados, nuts, fish, flaxseed oil and olive oil are healthy fats while trans-fats and some saturated fats are harmful.

Saturated fats.

Saturated fat such as palmitic acid (meat) and myristic acid (butter) both raise bad cholesterol (LDL) substantially. On the other hand stearic acid (chocolate) doesn't raise LDL and Lauric acid found in coconut oil raises LDL mildly and also raises the good cholesterol (HDL).

Generally, most saturated fats increase the rate of heart disease, although this is still a subject of hot debate. Generally stay away from saturated fat with the above exceptions. Limited such fats to 10% of your diet or less.

Once again, saturated fats such as steak (palmitic acid), butter (myristic acid), lard etc. are less healthy.

Why do the French have lower rates of heart disease than the USA even though they consume the same amount of saturated fats?

This French Paradox is difficult to explain. The French diet includes more wine and cheese than the American diet and this may be an explanation. Interestingly, in two studies, cheese reduced coronary disease by 18% and strokes by 13%. (British Journal Nutrition 2016;115/JAHA 2016;May 115).

The largest risk reduction in heart disease occurred with greater cheese intake of 40gms or higher per day and cheese is a saturated fat. Another idea is that the French are more active and therefore have lower heart disease and strokes.

Eggs have little saturated fat but do not raise cholesterol. Eggs are a good source of protein and likely do not correlate with heart disease. Saturated fats and carbs are the drivers of high cholesterol.

With regards to saturated fat, many people choose to supplement with coconut oil but until more information is known, cut down most saturated fats.

Interestingly, in the south pacific, the Katavin people consume 40% coconut oil but have a low incidence of heart disease. Additionally, pigs get thin on coconut oil vs. corn oil. Since coconut oil is controversial, it might be wise to wait till more knowledge is known on this subject.

Some common examples of saturated fatty acids taken from Wikipedia

- Butyric acid with 4 carbon atoms (contained in butter)

- Lauric acid with 12 carbon atoms (contained in coconut oil, palm kernel oil, and breast milk)

- Myristic acid with 14 carbon atoms (contained in cow's milk, eggs and dairy products)

- Palmitic acid with 16 carbon atoms (contained in palm oil, eggs and meat)

- Stearic acid with 18 carbon atoms (also contained in meat, eggs and cocoa butter)

Chocolate is a great antioxidant in moderation. So even though chocolate is a saturated fat, it can be healthy in moderation. Many studies show reductions in heart disease with this nutrient. Dark chocolate seems to be healthier but even milk chocolate has some benefits.

The saturated fat equation is changing. Dairy products, dark chocolate and coconut oil may be healthy but meat is still deemed to be unhealthy.

So keep saturated fats low in your diet but it's ok to add some dairy (esp. cheese) and dark chocolate. Stick to healthy fats which includes polyunsaturated and omega-3 fats. We will discuss these good fats later.

Trans fats.

These unhealthy fats will eventually be eliminated in the US by 2018 and it is a major contributor to coronary disease. If you see on the food label partially hydrogenated or shortening avoid it like the plague as this represents a trans fat. Maybe it's called shortening because it shortens your life!

This fat causes at least 30,000 excess deaths per year from heart attacks as it raises the LDL or bad cholesterol and lowers the good cholesterol or HDL. These fats likely increase cancer and diabetes as well.

Also if a product says zero trans fats it is still allowed to have one half gram of trans fats per serving so check the label for partially hydrogenated which means it does indeed have trans fats.

Unsaturated fats

We have already discussed saturated fats and now we go on to the healthier fats.

Monounsaturated fats contain certain nuts, avocados and olive oil, canola oil and other oils.

Polyunsaturated fats contain seed oils such as canola, safflower, corn and sunflower. Also this category includes omega 3 fats.

There are 2 types of omega 3s: Fish oils (EPA and DHA are the active ingredients) and alpha linolenic acid (ALA). ALA includes flaxseed oil, vegetable oils and walnuts.

The chart below taken from Diffen.com should make these divisions clearer because there is some overlap. For example,

	Saturated Fats	Unsaturated Fats			
		Trans Fats	Monounsaturated Fats	Polyunsaturated Fats	
				Omega-3	Omega-6
Sources	Animal fats and animal products (e.g., meat, butter, whole milk), chocolate, tropical oils (e.g., coconut, palm)	Being phased out entirely, but still available sometimes in processed foods, especially those with a long shelf-life.	Olive oil, sunflower oil, cashews, some beef fat, popcorn, oatmeal, avocados, many other plant and nut-based oils.	Found in flax and hemp more than any other food/oil. Also found in soybean oil, sardines, salmon, mackerel, many other fishes, beans, eggs, strawberries, broccoli.	Poultry, nuts, cereals, durum wheat, whole-grain breads, most vegetable oils.
Should you eat it?	Limit consumption. Should eat no more than 16-20 grams of saturated fat a day (for daily 2,000-calorie diet).	Avoid entirely. Do not eat foods that list "hydrogenated" or "partially hydrogenated" oils in their ingredients.	Recommended over saturated fats. Thought to reduce "bad cholesterol" and perhaps increase "good cholesterol."	Considered one of the "good" fats that helps metabolism, brain health, etc. Omega-3s are "essential fatty acids," meaning the human body only attains them through diet.	Essential "good" fatty acid, but may be connected to health problems when consumed in excess when compared to omega-3s. Research is ongoing.
			Consume no more than 45 grams a day (for daily 2,000-calorie diet).		

many oils contain both monounsaturated and polyunsaturated oils.

Actually, nearly every oil is a combo of all the fats. Coconut oil is 86% saturated fat but it does contain unsaturated fats as well.

Sunflower oil contains very little saturated fat and more mono and poly unsaturated fats.

The take home message is that unsaturated oils are healthy for you!

Restrict red meat.

Steak actually leads to the production of a toxic chemical in our gut called TMAO. It causes the gut to leak inflammatory chemicals which can cause blockages in our coronary arteries.

Happiness. What's the single most important factor to become and stay happy?

The Harvard Grant Study began in 1938 and followed a few hundred Harvard graduates for over 75 years. The healthiest and happiest individuals were the ones who had the best relationships. Human bonding is necessary for happiness and good health. It was more important than wealth, IQ, social class or even genetics.

Alcohol and cigarette addiction were the biggest negative correlates to happiness in this study. Another big negative in this trial was loneliness, which led to depression, unhappiness and a shorter lifespan. Strong social bonds helped people to live healthier and happier lives. In other words, love is the secret.

The Netherlands are the happiest country in the World but why? 96% belong to a club and clubs increase social bonding!

Hepatitis C

A common yet curable disease. Certain groups need screening.

-Occurs 6-8 weeks after exposure and usually there are no symptoms.

-Risk factors include IV drugs (biggest risk), tattoo needles, blood transfusions before July 1992, sex (very low risk), cocaine use (nasal micro bleeds), prisoners, HIV, hemodialysis, accidental needle stick (4-10% chance of transmission) etc.

-75% go on to have chronic hepatitis C and 20% in 20 years will get cirrhosis, liver decompensation or liver cancer. Liver tests may or may not be elevated.

-Estimated 3% of baby boomers have hep C and should be screened.

-If the anti HCV antibody blood test is positive (98% accurate usually 8-10 weeks after exposure), it should be verified by a HCV RNA viral particle count (turns positive within days of exposure). If verified, a Fibroscan should be done which is noninvasive and can detect cirrhosis.

-Treatment consists of direct anti-viral agents which have 95% plus cure rates. In some patients, the cirrhosis can be reversed with treatment. If you have Hep C avoid alcohol and get both Hep A and Hep B vaccinations.

Homosexuality. Is it environmental? Is it genetic?

Genetics are a strong component.

In 1993, genetic variations in a region on the X chromosome in men were linked to whether they were heterosexual or

homosexual, and in the mid 90s a region on chromosome 8 was also identified as a determinant.

Both findings were verified in a study of gay and straight brothers in 2014. More recently, genetic material found on both chromosome 13 and 14 is highly correlated with homosexuality. The evidence in lesbians is not as robust because there have been less studies but a genetic correlate is suspected.

So sexual orientation is more in the genes rather than a lifestyle choice.

Hormonal therapy. Should I use hormonal therapy (HT) in menopause?

Estrogen has a role in relieving menopausal symptoms under certain circumstances supported by research.

More women will use hormone therapy to manage menopausal symptoms. Hormone therapy (HT) used to be commonly used in the 1980s and 1990s.

HT was discouraged 15 years ago when the big Women's Health Initiative trial found that estrogen plus progestin increased the risk of breast cancer, cardiovascular disease, and dementia in older women.

Reanalysis of that data says that estrogen replacement is indicated with moderate to severe symptoms.

Consider HT for bothersome menopausal symptoms in healthy women under age 60 or within 10 years of their last period.

The benefits of improved quality of life and prevention of bone loss seem to outweigh risks.

Interestingly, some studies point out that using estrogen alone in women under 60 is linked to a lower risk of heart disease.

Avoid estrogen replacement if you are a woman age 60 or 10 years past menopause due to higher risk of stroke, heart attack and dementia.

Breast cancer risk is usually low. Using estrogen and a progestin for 4 to 5 years is linked to one more case of breast cancer per 1,000 women/yr which is minimal. Estrogen alone for up to 7 years doesn't seem to increase risk.

Be cautious using systemic HT if you are at high risk for breast cancer due to a strong family history or BRCA gene mutations and avoid if you have a history of breast cancer.

Avoid systemic HT if you have increased cardiovascular risk or a history of stroke, heart attack, or blood clots.

It is reasonable to use low-dose, short-term HT for severe menopausal symptoms in women with diabetes or controlled hypertension.

If hormone therapy isn't appropriate, consider other options such as an SSRI (escitalopram) or SNRI (venlafaxine) for hot flashes or a vaginal moisturizer (Replens, etc) plus a lubricant for vaginal symptoms.

Mammography. How often should I get it done? What about dense breasts?

Begin this valuable test at age 50 and repeat it every 2 years. Balance how often you repeat this test with your doc. Getting a mammogram between 40-49 and over age 75 remains controversial as we have less data in both of these age groups.

With a strong family history of breast or ovarian cancers, especially at an early age (under age 50), consider a BRCA gene test for 1st degree relatives. The BRCA1 and BRCA2 gene produce proteins that suppress cancer and help to repair DNA.

Mutations in either of these genes can increase the risk of breast, ovarian, prostate and pancreatic cancers. Knowledge is power and knowing if you have a genetic predisposition can better help you to detect a problem early.

3D mammography does not add any additional benefit to the mammogram. Also if the mammogram shows dense breasts, there is a slightly higher risk of breast cancer. Dense breasts are common but there are not enough studies to determine if an additional MRI or ultrasound will be helpful diagnostically. Such tests are costly.

Medicines and driving what do I need to know?

You'll see more emphasis and warnings about meds that can impair driving ability.

Many people don't realize "drugged driving" is just as risky as drunk driving' and the same legal penalties apply.

The usual culprits that may be sedating and impair driving include barbiturates, benzos (valium, xanax etc) muscle relaxants, opioids like codeine, and sleeping pills. Of course, most of us understand the perils of drinking or using THC and driving.

Some anticholinergic meds (first-generation antihistamines such as diphenhydramine (Benadryl), oxybutynin, etc), can cause confusion and blurred vision. Sometimes, diphenhydramine may impair driving ability even if patients don't feel drowsy.

Varenicline (Chantix) is also implicated in impaired driving and this drug is used for smoking cessation.

Anti-diabetic agents such as insulin and sulfonylurea medicines can cause hypoglycemia which can impair consciousness. Make sure that the sugar is under good control (generally between 80-130 fasting in the am).

Patients who have seizures should get clearance from their neurologist and also make sure that their drug levels are adequate.

Distraction is a killer. Talking and texting to others, putting in CDs into the CD player, looking in the mirror to assess your appearance can get you killed. Often the police will check your phone after an accident. So please wear your seatbelts, do regular car maintenance and **DON'T GET DISTRACTED**.

If your doc suspects dementia, don't drive. Get tested for your memory and get a driver's test and make safety a priority.

Finally, when you start or increase the dose of a potentially impairing medication, see how you are reacting before driving and do not drive if you feel dizzy, sleepy or have vision changes, etc.

1 out of 6000 people die yearly and 1 out of 60 get in a car accident yearly. We can't just wait for self-driving cars; we need to be fully aware now even though driving is automatic for most of us. Car crashes kill many more people than medicines.

Medication costs. How can I save money on meds?

Go to www.goodrx.com or download the app to get coupons for the lowest cash price on your medicines. For any brand drug go to the [name of the drug.com](http://name.of.the.drug.com) to get coupons. For example, for a branded weight loss drug like Belviq, go to Belviq.com. What about importing drugs from outside the US? The legality is questionable and the FDA does not oversee these companies. Probably 1-2% of the drugs are shams.

Choose generic agents as they are much cheaper and the US government requires studies that demonstrate similar absorption properties (within 4%). Also therapeutic interchanges may be helpful. In other words a generic drug similar to the branded one could be substituted. Review your med list with your doc to see if costs can be reduced.

Memory. Do you have any tips that I can follow?

Alzheimer's Disease represents 80% of dementia and has both genetic and environmental causes. This disease should be screened for by taking the MMSE or mini mental status exam. This is a 5 minute test administered by your healthcare provider. Men and women over age 65 can be screened. Additionally, younger patients can be screened if cognitive difficulties are present. Most memory loss is benign.

Risk factors for dementia may include repeated head trauma, diabetes, lack of sleep, high blood pressure and depression. Excessive alcohol and cannabis use may also be risk factors.

We can indeed take action to help prevent dementia although no intervention is absolutely proven.

Exercising (particularly dancing) and changing our diet may help! Let's face it, we are what we eat, right? Unhealthy diets have been proven to shrink the hippocampus where memories are stored. Trans-fats are unhealthy fats which can increase dementia by 400%.

Consider following the MIND diet (like the Mediterranean diet) which consists of green leafy vegetables, other vegetables, nuts, beans, whole grains, fish, poultry, olive oil, berries and a little wine.

The unhealthy foods, which should be consumed in moderation, are red meats, butter/stick margarine, cheese, pastries/sweets, fried foods and fast foods.

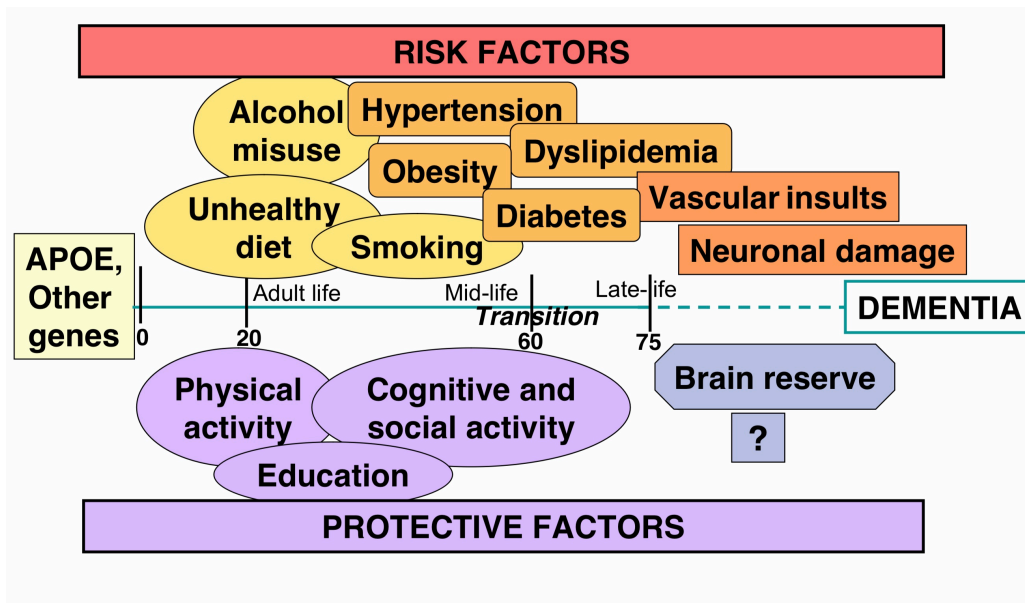
If the MIND diet is followed, there is a 50% reduction in Alzheimer's disease in patients who strictly followed the diet and a 35% reduction in patients who moderately followed the diet according to *Alzheimers Dement.* 2015;11:1007-1014.

Most supplements like Ginkgo, just don't work. It is reasonable to take fish oil as it is part of a mediterranean diet. Vyacog is a supplement that might be helpful. It is a chemical that allows fish oil (which is attached) to be delivered past the blood brain barrier to the brain. Prevagen, which is highly advertised is generally not helpful.

The FINGER trial showed that the following factors in combination helped to reduce cognitive decline:

- 1) Dietary guidance
- 2) Physical activity
- 3) Cognitive training and social activities
- 4) Intensive monitoring and management of metabolic and vascular risk factors.

Risk factors and protective factors for cognition are shown in the diagram below taken from the FINGER Trial.



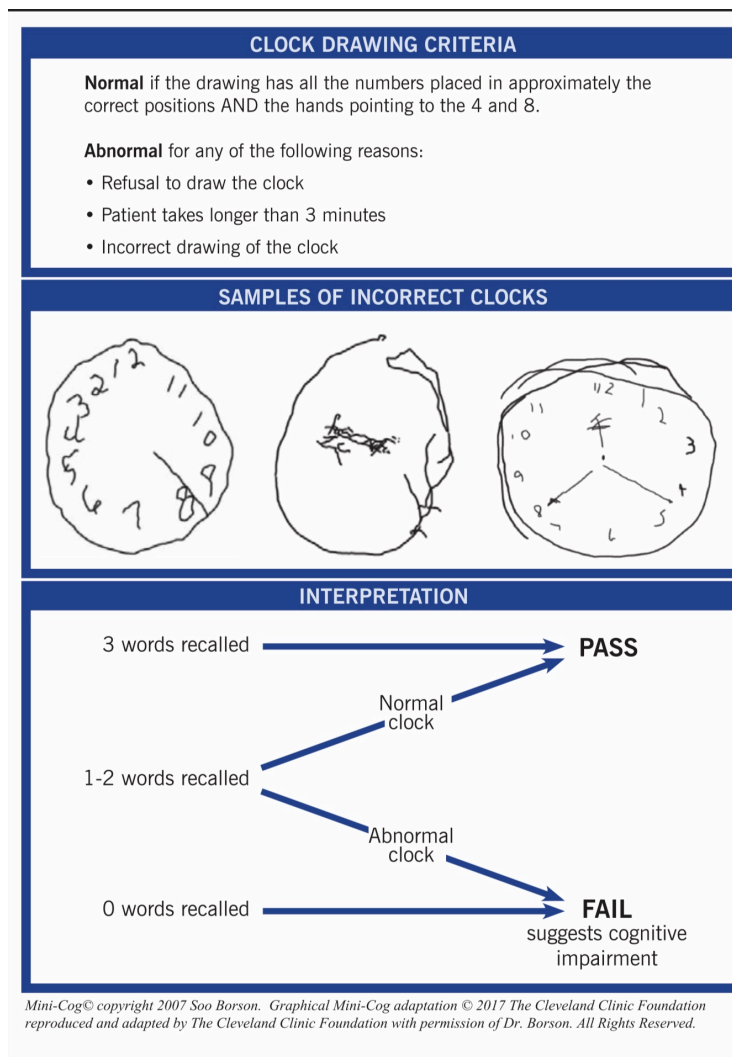
Screener test for dementia-Mini Cog

Remember 3 words and repeat them- e.g Ball, Flag, Tree

Now draw a clock with the hands at 10 min after 11

Can you remember the three words?

A FAIL as seen in the diagram is 89% specific for cognitive impairment while a PASS misses 21% who have cognitive impairment so the test is pretty good but not perfect. It can be quickly done and the test results should be discussed with your healthcare provider.



Muscle cramps really hurt; what to do? A personal note from Dr. Evan Lipkis.

If no cause can be found (most muscle spasms) then take a look at the ideas featured here.

On a personal note, I suffer from muscle spasms. I have had nocturnal cramps and exercise induced cramps. My right thigh muscle can spasm so intensely that I fall to the ground in pain. I will tell you how I relieved the pain later in this article.

So little is known about muscle spasms and the treatments are not well defined. Textbooks of medicine hardly talk about the subject. I will attempt to help you because this problem is quite common at all ages. My passion is being fueled by my own past frustration with this subject, so let's get started. After all, this is indeed *personal*.

It is always important to determine the causes. These can include thyroid disorders, calcium, magnesium and potassium imbalances, dehydration, hot temperatures, drugs such as diuretics, beta blockers and especially statins. Neurologic diseases like MS, Parkinson's, back and neck disorders, spinal cord and brain injuries can cause muscle spasms as well. Many times patients get nocturnal cramps that awaken them without any precipitant whatsoever.

What might work to prevent muscle spasms?

- Drink six to eight glasses of water daily. This may help to prevent dehydration, which may possibly play a role in the cramping.
- Stretch the calves or affected muscle regularly throughout the day and at night.
- Ride a stationary bicycle for a few minutes before bedtime or before exercise. This keeps the muscles warmer and may prevent spasms.
- Keep blankets loose at the foot of the bed to prevent your feet and toes from pointing downward while sleeping
- Do aquatic therapy regularly to help stretch and relax the muscles.
- Wear appropriate foot gear.

What might work to treat these spasms?

Certain medicines may be helpful which I will address shortly.

As you know, there are many different types of muscle spasms and we don't know if the different categories are treated the same. For instance are exercise induced cramps treated the same as nocturnal cramps? Feel free to do therapeutic trials with any of these options to see if they work for you as long as you review the treatments with your health provider.

- Calf stretches or stretching the affected muscle. Consult with an exercise trainer or physical therapist for specific exercises to both prevent and treat muscle spasms. Walking may relieve leg or thigh cramps quickly.
- Hydration with electrolytes may be particularly useful for exercise induced spasms. Gatorade is one example of an electrolyte drink.
- Ice packs can be applied to the specific muscle. I keep a large pack in the freezer and use it when a muscle cramps up and it helps. Frozen vegetables will also work when no ice packs are available. Heat may also work if ice doesn't.
- Pain killers such as ibuprofen, acetaminophen or tramadol may be helpful in treating spasms but take time to work.
- Cyclobenzaprine (Flexeril), a muscle relaxant, has shown efficacy in treating neck and back related spasms. This drug can cause drowsiness but an extended release preparation, Amrix, causes less fatigue. Other muscle relaxants are available. Chiropractors, physical therapists, accupuncturists, massage therapists and exercise trainers might also be helpful.
- Vitamin E 400 units daily plus vitamin C 250 mg daily helped to relieve muscle cramps in dialysis patients.
- Some studies show that B vitamins, calcium and magnesium might be effective.
- Baclofen and or clonazepam (like Valium) might be useful for spasms related to neurologic disease.
- Quinine is the 800 pound gorilla! I found this drug very effective for leg cramps but it was taken off the market due to heart rhythm disturbances and the reduction of platelets, although both side effects are uncommon. Now it is only approved for malaria as Qualaquin at 5 bucks a pill and it is not recommended for leg cramps since the risks outweigh the benefits.

Hyland Leg Cramps and tonic water are likely too low in quinine to be effective although either product may be tried.

- Hot Shot drink. This is an OTC drink developed by a Nobel Prize winner, Dr Rob MacKinnon. He postulates that cramps occur due to excessive nerve input into the muscle. Apparently spicy food in the mouth and esophagus slows down the neuronal discharge. The drink contains ginger, cinnamon and capsicum (made from chili peppers) and retails for \$35 per 6-pack (\$5.83 per 1.7oz serving). The duration is likely 2-4 hours and can be used before exercise or as soon as a cramp begins. Spicy foods might also reduce the incidence of heart disease.
- Vitamin D and coenzyme Q-10 might work for spasms due to a statin drug (treats high cholesterol). Often going off the drug for a month or trying another statin can help. Livalo probably causes the least spasms out of all the statins. Finally aim for a vit D level of around 50 to help decrease statin induced muscle cramps.

So what did I do for my awful thigh spasm? I applied cold packs and took an eighth of a teaspoon of cayenne pepper as that was the only spice that I had available. My mouth was on fire but the cramp dissipated in under a minute. Now I also take magnesium 500mg twice daily and this has prevented most of my lower extremity spasms. Magnesium blood levels are mostly inaccurate so supplementation can be tried.

Muscle spasms have a wide variety of causes and there is no simple solution. A targeted approach can be taken depending on the associated disease. If there is no apparent cause, then any of the above remedies can be tried with the help of your PCP.

Non-compliance. But doc, I read it on the internet, it must be true!

Sometimes patients can be like kids, they won't accept or follow rational medical advice but docs who are patients are probably even worse.

This is the biggest problem in medicine. Patients don't come in for yearly physicals, don't take their meds or forget to do their tests.

Part of the problem is just human nature but we are all vulnerable to stories from friends and relatives and misinformation on the internet. What can be done? Be honest with your doctor and discuss your beliefs so the doc is aware and can lend specific scientific advice.

Additionally, keep a medicine and allergy list on your phone or in card form. This way, the specialist, ER physician and general healthcare provider are all on the same page. This is VERY important as most errors in the medical field involve medications.

Osteoporosis-Do calcium supplements really help? Who is at risk? When should I be screened? Is osteoporosis the same as osteoarthritis? What about men?

Osteoporosis kills more women than breast, uterine and ovarian cancer. Especially get screened if you are a woman 65 and older or a man 70 or older. Treatment reduces fractures by 50%.

Screening:

Obtain a DEXA scan to measure bone density if you are a female 65 and older. All you have to do is lie down on a table for 10-15 minutes and the radiation exposure is only 1/100th of a chest X-ray. Consider screening every 2 years.

Other groups to be screened include:

- Men or women with a history of low-trauma fracture
- Women and men under 65 with multiple risk factors as seen below.
- Men age 70 and older
- Men age 50 to 69 with risk factors (see risk factors below)
- Postmenopausal women under age 65, especially women:

- Who went through natural or surgical menopause before age 45
- Who are thin, smoke, or have a family history of fracture

Risk factors for osteoporosis

Risk factors for osteoporosis include age, previous fractures, smoking, increased alcohol, blond hair, blue eyes, steroid use, anti-seizure medicines, aromatase inhibitors, anorexia, sedentary lifestyle, repeated falls, vision impairment, immobility, organ transplant, family history etc

Treatment

- postmenopausal women, and men age 50 and older, with a T-score (a measure of bone density) on the DEXA machine of -2.5 or lower which means osteoporosis.
- Postmenopausal women, and men age 50 and older, with a previous hip or spine fracture. Osteoporosis is especially defined by these fractures and likely the wrist too.
- Patients with a T-score between -1 and -2.5 (i.e., osteopenia) with the following risks per the FRAX (Fracture Risk Assessment Tool). FRAX is often noted on the DEXA report.
 - 10-year hip fracture risk of 3% or higher
 - 10-year risk of major osteoporotic fracture of 20% or higher

Monitoring

Some experts believe it is not necessary to check a DEXA in patients currently receiving osteoporosis treatment because:

- women receiving osteoporosis treatment may have reduced fractures regardless of the DEXA reading on the bone density.
- there is no evidence to support monitoring bone density in men receiving osteoporosis treatment.

Others recommend continuing to check a DEXA during treatment until bone density has stabilized.

When can anti-osteoporosis meds be stopped?

Possibly after 5 years in women at lower risk for fractures. Some studies show that alendronate doesn't prevent many more fractures after 5 years. A discussion should occur and be individualized.

If a medicine is removed, a DEXA can be checked every 2 years and if there is significant worsening of bone density, then the medicine can be restarted.

Certainly if steroids are started (more than 2.5 mg of prednisone for 3 or more months) or if a new fracture occurs, treatment should be reinstituted.

Role of calcium and vitamin D

A meta-analysis in 2017 showed that calcium and vitamin D supplements did not help a population of older men and women who were not in a nursing home. In other words, these supplements did not prevent fractures. In fact most studies show that calcium supplements may be harmful since more kidney stones and heart disease may occur. Continue vitamin D as it may have other benefits.

Osteoporosis kills more people than breast, uterine and ovarian cancer combined. Why? Because once you break your hip or back, this weakened, immobile state increases the chances for infections and blood clots. Osteoporosis is essentially like a lack of struts and cross-linking in a chair. It is the cross-linking that gives both the chair and your bones strength.

If you have already had a hip, wrist or spine fracture, then even if the DEXA scan is normal, get treated. You have osteoporosis despite the normal scan. While the DEXA is pretty accurate, it still misses the diagnosis occasionally. The biggest risk factors for osteoporosis are age and a previous fracture.

Medicines for treatment

First line therapy is alendronate which is taken once weekly. Acid reflux is the most common side effect. Prolia, an injectable given every 6 months and is very well tolerated but probably should be avoided if you have a rash. Both drugs can cause osteonecrosis of the jaw (bone infection) and atypical thigh fractures. These are both exceedingly rare.

Raloxifene doesn't prevent hip fractures like the 2 drugs listed above and can cause hot flashes and blood clots. Raloxifene can be used to prevent vertebral fractures in women and it helps to reduce the incidence of breast cancer by 70%.

Calcitonin isn't very effective for pain or fracture prevention so it should be avoided.

Most women with osteoporosis should be treated for 5 years or possibly longer especially in higher risk individuals.

Osteoarthritis, on the other hand, is wear and tear on the cartilage and is a completely different problem than osteoporosis.

Poisoning

Just be aware when a toddler is in your house. Keep your meds/ cleansers etc. out of sight and locked up.

In case of a poisoning, call the Poison Help line ASAP at **800-222-1222**. Program the number into your phone.

Dial 911 instead if you see someone who has collapsed or can't be awakened, is having a seizure, or is having trouble breathing.

Poisonings with unusual substances are on the rise.

In the baffling "Tide Pod Challenge" social media trend, teenagers are chewing laundry packets and can actually end up swallowing some detergent.

Kids are also being fooled by drugs that resemble candy or food such as gummy vitamins, e-cigarette "juice," marijuana cookies, iron tabs, etc.

Keep meds in their original bottles and lock them up if you have kids or grand kids. Safety caps may slow kids down but won't always stop them.

Do not to store chemicals or cleaners in bottles or cups, which can look like beverages.

Turn on a light and read labels before each dose since poisonings can happen in the dark. And some people have brushed their teeth with meds in tubes such as capsaicin cream.

Don't try to manage a poisoning with activated charcoal or by inducing vomiting. Dispose of ipecac if you still have it. It can do more harm than good and is no longer being made.

Dispose of unneeded prescription meds at National Take Back Day every year on Apr 28. Don't throw meds down the toilet as you may be poisoning our water supply.

Probiotics. Do they help with any conditions?

Many more studies are needed but so far the data is positive.



What is a probiotic? This supplement consists of millions to billions of good bacteria or even yeast. Sales of probiotics have quadrupled recently and many studies are supporting its use. Your gut has loads of bacteria and is chemically active. Ideally,

each of us should have about 80% good bacteria and 20% bad bacteria. The micro-biome or bacteria in our gut can have far reaching effects on many diseases. In other words, what goes on in your gut determines what goes on in your body. BTW, a prebiotic is usually a fiber supplement that induces growth of good bacteria. Most of the research has been done on probiotics so we'll focus in on this supplement.

Can we get the good bacteria that a probiotic provides from our diet?

Absolutely! But some of the foods may not be exactly tasty. Cultured yogurt will contain some bacteria but yogurt is pasteurized so much of the bacteria are killed. Also yogurt has had sugars added which can cause the bad bacteria in the gut to multiply. Lassi (an Indian yogurt drink, traditionally enjoyed before dinner), a variety of pickled fermentations of cabbage sauerkraut, turnips, eggplant, cucumbers, onions, squash and carrots are all good choices. Additional sources include cheese curd, tempeh, fermented raw milk, kefir (drinkable yogurt), dark chocolate, tea, cole slaw, coffee, wine and beer. We recommend moderation but much prefer taking the probiotic.

Ok, doc, so which probiotic do I take if I can't stand the diet? That all depends upon what you are trying to treat. So let's examine this issue based upon a few scientific studies:

Depression- At the 13th World Congress of Biological Psychiatry. (Poster presented June 19, 2017), 10 patients were given *Lactobacillus helveticus* R0052 and *Bifidobacterium longum* R0175. Both sleep and mood improved. Additionally interest in fun activities increased. Yes, this is a special probiotic but it may be that any probiotic will work but clearly larger studies are needed.

In fact both depression and anxiety were helped according to Altern Complement Med. 2017; 23(4):249-258 and it didn't matter which probiotic was used.

Diabetes type 2- According to Diabetes Metab Res Rev. 2016; 32(2):143-68, both animal and human studies were analyzed and most of the studies showed improvement in at least one diabetic parameters such as sugars, A1C, insulin levels etc. Cholesterol profiles often improved as well. Once again, more studies are needed but this is an easy intervention for diabetics to institute. The bacteria in the probiotic was primarily lactobacillus.

Clostridium Difficile- This is one nasty infection that occurs mainly after antibiotic use. It results in abdominal pain and diarrhea and can be fatal, especially in older folks. So, the antibiotics destroy the good bacteria in the gut and then this bad germ invades the gastrointestinal tract called Clostridium difficile. Taking a probiotic may not prevent recurrences but a meta-analysis from Ann Intern Med. 2012; 157(12):878-88 shows that taking a probiotic along with an antibiotic can help to prevent this awful disease from happening.

Additionally, antibiotics can cause diarrhea without clostridium difficile invading and probiotics can help you avoid this problem as well. Take the probiotic along with antibiotic treatment and continue until 2 weeks afterwards. Also take the probiotic at least 2 hours after the antibiotic so that the antibiotic doesn't destroy the good bacteria as well. With Florastor, a yeast based probiotic, one doesn't have to worry about taking it with an antibiotic.

Interestingly, probiotics may also work for a bacterial disease called bacterial vaginosis which is a common bacterial vaginal infection.

Many people suffer from constipation and a probiotic according to Arch Gerontol Geriatr. 2017; 71:142-149, may improve this disorder in the elderly by 10-40%. Probiotics also seem to work well for treating the constipation in patients who have Parkinson's disease.

Finally, a probiotic can also help with acute gastroenteritis from a virus. Symptoms may include diarrhea, muscle aches, nausea etc.

Irritable bowel syndrome (IBS)-This disease is very common and predominantly occurs in women. It is characterized by abdominal pain and either constipation or diarrhea or both. Many times the pain is relieved by a bowel movement. Any probiotic seems to be helpful in relieving the pain and symptom severity score with regards to IBS. This is a cheap and easy intervention to utilize. Here is the reference for this meta-analysis; World J Gastroenterol. 2015; 21(10):3072-84

Weight loss-Another meta-analysis looked at the micro-biome to determine if probiotics could help with weight loss. Unfortunately there were very few randomized controlled trial's included in this analysis and therefore we cannot conclude that the probiotics help with weight loss at this time. More studies will be needed in the future (Nutr Res. 2015; 35(7):566-75). I am hopeful that by altering the eco system of the gut, that we can harness the bacteria needed for weight reduction.

Upper respiratory infections- If the gut leaks toxic chemicals, an upper respiratory infection may result. Probiotics probably help with this syndrome. A meta-analysis showed that any strain of probiotic reduced the incidence of upper respiratory infections (includes colds), the duration of these infections and loss of time from school. All ages were tested and this is evidence that

probiotics help improve immune function Explore (NY). 2015; 11(5):418-20

Metabolic issues- Recent evidence shows that probiotics seem to lower low density lipoproteins (LDL)-cholesterol and improve the LDL/high density lipoproteins (HDL) ratio, as well as lower blood pressure, inflammatory mediators, blood glucose levels and body mass index. See Food Funct. 2016; 7(2):632-42 Once again, these were a collection of studies (meta-analysis) that show improvement of metabolic abnormalities with the use of probiotics.

Who should not use a probiotic? Generally, if you have an immunocompromised state where your immune system is weak, avoid probiotics. There may be an outside chance of an infection.

Summary-Probiotics represent a supplement that surprisingly has a lot of upside. We need better studies and right now all we have are lots of positive associations. Probiotics alter the gut bacteria and likely prevent toxins from being released. Therefore most strains of this interesting supplement per the above listed articles might help with:

Irritable bowel syndrome

Constipation

Diarrhea, traveler's diarrhea

Clostridium difficile, antibiotic associated diarrhea

Depression

Anxiety

Panic

Social anxiety

Diabetes-Type 2

Cardiovascular risk factors such as LDL cholesterol

Immune system, upper respiratory infections, colds

More studies for other ailments are underway

**PSA. Is it a worthwhile screening test for prostate cancer?
Does it save lives? Do I really need a rectal?**

The rectal does little to detect prostate cancer and many times the PSA goes up without the patient having cancer. Neither test decreases overall mortality.

The PSA as a screening blood test has become controversial. The USPTSF guidelines state that PSA screening for prostate cancer isn't recommended unless men request the test after being informed of its potential benefits and risks. There is a weak recommendation for doing a PSA in the 55-69 age group. Usually when the PSA is elevated, it is due to benign enlargement of the prostate. Perhaps if the PSA goes up 0.8 or more each year, prostate cancer is more likely but still many unnecessary biopsies occur.

According to the ESPRC trial in the Dec 6th 2014 edition of Lancet, PSA screening reduced the number of prostate cancer related deaths during 13 years of follow up but did not affect overall mortality.

In fact, 50% of men at the time of death harbored prostate cancer that was dormant. So most prostate cancers are slow growing and not a threat. As a result, this test will remain controversial. An MRI of the prostate may clarify the nature of an elevated PSA and localize the best areas to do a biopsy.

The PSA a good diagnostic test when prostate cancer is suspected, so if there is a change in urinary habits such as blood in the urine, doing a PSA can assist with the diagnosis.

The rectal exam, according to a meta-analysis in 2018 is a worthless screening test. If, however, there is a new problem with urination or defecation, then it can be of benefit.

USPTSF guidelines for 2018 advises docs to discuss pros and cons of screening between the ages of 55-69 and not screen at 70 years old or later.

Purpose. Should we have a purpose in life?

Enjoy yourself but always have a purpose even if you retire.

Purpose gives you a strong reason to live and accomplish. This will help you both achieve and maintain happiness in your life. A happy, positive person lives a higher quality of life, so couple your passion with your talents and accomplish. Never totally retire. Laying on the beach only gives you temporary happiness and eventually it becomes boring. Reinvent yourself, maximize your talents, accomplish your goals and serve others. Loving yourself is important because it makes it easier to have a purpose. According to Int J Aging Hum Dev. 2017; 85(4):403-437, purpose correlated with better health and well being in older adults. A sense of purpose waned with age. The study was a meta-analysis looking at 31 studies.

Safety-A few tips

Be aware is the first step in any safety manual.

The O-Zone, coined by our friend, Doug Cummings, essentially means that you aren't paying attention and are oblivious. You are a set up to be robbed, pick-pocketed or even kidnapped.

-Approach every new environment, whether it's a restaurant, a bar, the lobby of a building or a busy street, as though you've arranged to meet someone there. Keep your head up and your

eyes moving. Listen for sudden sounds that break the pattern of ambient noise around you.

-Look for a way out the moment you walk in. Mark in your mind where the exits are in every building and the fastest way to get to them. Outdoors, pick a safe place you could reach quickly in case of an emergency.

Think about what you would do if an assailant approaches. Where should you hide? What could you use as a weapon?

Always know your location. Whether you stop for gas, use a parking garage, duck into a coffee shop or go bar hopping, note the address. If it's not posted, ask.

Avoid using headphones or texting while walking, running or biking. Eyes focused on a screen aren't watching your surroundings. Listening to music and/or audio books places you in the O-Zone and such people are very easy to spot.

The most basic tip of all whether you are at home, in the office, in your car, in hotel/motel rooms, is to lock your doors and latch your windows. That simple act may be enough to keep out an intruder.

Other tips

-Buy a tactical pen. You can take it through airports and is a valuable weapon. It writes too.

-Don't answer your door unless you know a friend or relative is coming over. Burglars often are disguised as delivery men. If persistent knocking occurs, talk thru the door. This way you are fairly well protected and the potential burglar knows you're home.

-Keep a large dog dish near the front door glass. Burglars hate to rob homes with dogs.

-Put stickers on windows that you have an alarm system whether you do or not.

-Have fake cameras in the house that blink red just like a real one if you cannot afford a camera and an alarm system.

-Fight and resist kidnappers. Yell and scream. Escape the first day as you will be at your strongest. A blow to the adam's apple, groin, shins or the eyes can be quite effective.

Have a great lock (Schlage or Medeco) on your front door since most home invasions occur here.

Sleep and sleep apnea. How do you get a good night's sleep. What is sleep apnea?

Good sleep may help prevent depression and dementia. Get your sleep disorder treated.

Sleep apnea affects 20% of the USA and can cause fatigue/ daytime sleepiness, heart disease, high blood pressure, diabetes, depression and stroke.

Treatment includes CPAP or continuous positive airway pressure, a specially made dental guard or a tongue stimulator (STAR). It is not certain if utilizing these treatments will cut the incidence of strokes and heart attacks. Patients with no symptoms should not be screened.

Most of us underestimate the value of a good night's sleep. We need sleep and like taxes, it is one important debt that we cannot ignore.

30% of people suffer from insomnia, so it is a huge problem. Let's look at some of the benefits of getting restorative sleep.

Adequate sleep can aid in weight loss and help the immune system.

Restorative sleep can help to avoid car accidents, fatigue, sleepiness, mental decline, depression, chronic pain and even diabetes. This is supported by the medical literature. Ideally, 7-8 hours of sleep in adulthood is adequate. More is needed in adolescents.

The proper amount of sleep can reduce cardiovascular disease. According to *Neurology* 2015;84:1072-1079, getting more than 8 hours of sleep can double the stroke risk. In fact, both too little sleep and too much sleep increases cardiovascular risk.

Getting enough sleep is very important for the treatment of both anxiety and depression according to the article: *Anxiety, Comorbid Depression Linked to Frequent Insomnia*. Medscape. Nov 07, 2011. Over 94,000 patients were studied and both disorders were helped by sleep.

Good sleep can help with our creativity and ability to learn and it may help to decrease amyloid plaque deposition that is seen with Alzheimer's.

But how can we get a good night's sleep without sleeping pills?

Behavioral measures can help and have been proven to be as effective as a drug.

Melatonin or the sleep hormone is increased with darkness and with a cool room. So snuggle under the covers in darkness but not too many covers!

If you cannot fall asleep within 30 minutes, then go to a different room and come back. Use the bedroom for sex and sleep only. Turn the clock away from you and don't watch TV.

If you are a chronic insomniac, then try sleep restriction and build up the sleep debt which must be repaid. Sleep the number of hours you think you are getting. Let's say you are in bed for 8 hours but get only 5 hours of sleep. Therefore sleep just 5 hours and get up even if you are not rested. Each night add 15-30 minutes more. Eventually, the extra time awake catches up with you and you can begin normalizing your sleep patterns. No daytime naps are allowed.

Avoid drinking alcohol, coffee and water before bedtime. Alcohol and antihistamines (e.g. Benadryl) can fragment sleep. Coffee is a stimulant and water causes you to urinate. Utilize an app like *simply being* to help fall asleep.

Sleep meds have their role but addiction, falls and memory loss may be an issue. Always have your doc investigate the underlying cause of insomnia. For instance, depression often causes early morning awakening. Targeting treatment towards helping the depression can relieve the insomnia. Meds used for sleep include melatonin, Belsomra, trazadone, zolpidem, benzodiazepines and tricyclic antidepressants. Behavioral treatment works as described above works as well as a medicine.

Smoking cessation-What works best? How do we screen for lung cancer? Are e-cigarettes good or bad?

20% of Americans still smoke and it is worse abroad. There is help and you can add 3-10 years to your life. Don't give up!

Yes, smoking is your best friend and 10 times more addicting than heroin, but please think about quitting! Zyban (bupropion), Chantix, counseling, the nicotine patch and the nicotrol (nicotine) inhaler can help make quitting easier. Quitting can lengthen life by 10 years. It's a choice between COPD, lung cancer, head&neck cancer, pancreatic cancer, osteoporosis, heart attacks and strokes or better health and quality of life. It takes a few tries but you can succeed with a little follow up from your health provider.

If you are between the ages of 55-75 and have smoked a pack a day or more for at least 20 years and you have quit within the last 15 years or continue to smoke, then consider a quick CAT scan of the lungs to screen for lung cancer. It's much better to cure lung cancer than to let it spread by not screening. Most lung cancer is caused by smoking but passive smoke, radon and asbestos can play a role as well.

E-cigarettes have been in the news lately and can be used for smoking cessation. However, these vapor cigarettes are a source of secondhand exposure to nicotine and other chemicals. The risks of secondhand vapor are unknown but are probably lower than tobacco smoke. Caution is recommended around non-users, youth, pregnant women, people with COPD, asthma and cardiovascular conditions.

Upon analyzing common brands of e-cigarettes, the following chemicals were found and some are potential carcinogens: propylene glycol, glycerol, flavoring, diethylene glycol, ethylene glycol, ethanol, formaldehyde, and acrolein. The effect of chronic exposure to these chemicals remains unknown, however, tobacco contains over 5000 carcinogens and causes emphysema and heart disease.

The Canadian Lung Association warns that people who use e-cigarettes are inhaling unknown, unregulated, and potentially harmful substances.

The release of chemicals and contaminants in e-cigarette vapor will vary between devices and the way they are used. Multiple chemicals are released (e.g., formaldehyde [a known carcinogen], etc) at higher temperatures. Smoking cessation utilizing e-cigarettes is reasonable since such a device is utilized temporarily so risk is mitigated. But long term, we do not know the harms that can occur.

Snack. What is a healthy, low-cal, underrated snack that is filling?

Aw shucks, it's popcorn and it's healthy unless you mess it up.

Well it's popcorn and we don't mean microwavable popcorn or movie theater popcorn. Here is the recipe:

- Get an air popper or just a microwavable bowl with a loose fitting top.
- 4 tablespoons of kernels=1/4 cup=2 quarts of popcorn
- Use organic kernels as corn has a lot of pesticides.
- The microwave gets up to 500 degrees so don't add oils as the breakdown products may be harmful. Usually 3-5 minutes is all that is needed.
- Now you have 2 quarts of unprocessed gluten free fiber which is part of the Mediterranean diet. The popcorn is filling and you are forced to eat it slowly and it is only 180 calories. Heck, one cookie can contain the same number of calories and you don't

even feel satiated. Also having it with water will help to distend the stomach which creates a feeling of fullness.

—Add extra virgin olive oil in spray form and you have a high fiber healthy snack or even a meal replacement! Popcorn only contains 16 grams of carbs as opposed to most cereals which contain 25-45 grams of carbs.

—Please don't spoil the snack with lots of butter and salt. Also, microwave popcorn has too much added salt and unhealthy oils. Another idea is to take a handful of kernels and place them in a paper bag. Fold the top of the bag over and place it in the microwave. Turn the microwave on high and cook for 2-4 minutes or until there is more than 2 seconds between the popping. Avoid burning your healthy snack.

And remember, don't bring in the wrong foods into the house. We don't want the popcorn to compete with cookies, brownies, muffins, cakes, candy, potato chips and sweet rolls!

STDs What are the most common diseases and how can you screen and treat? Should I have an HIV test?

STDs are very common and misunderstood. Get screened if you are a young male or female or at risk (multiple partners, men who have sex with men etc.). Partners need to be informed and treated.

Chlamydia. There are 450,000 cases yearly and it is the most common bacterial STD. Newborn infections and infertility often occur. The infection can lay dormant for years while it reeks havoc on the fallopian tubes. Pelvic inflammatory disease, ectopic pregnancy, chronic pelvic pain and infertility are the end results.

Nucleic amplification methods which measure chlamydia DNA is the test of choice and is very accurate. Best to collect the beginning part of the urination and the test remains positive even after 3 weeks of treatment.

Azithromycin 1gram as a single dose or Doxycycline 100 mg 2 times daily for 1 week can be used to treat. Docs should treat all partners within the last 60 days.

Women under 25, young males and older women with risk factors should be screened. Retest in 3 months after treatment to ensure that the person didn't get reinfected.

Gonorrhea. Rates are also increasing in the USA. The same nucleic amplification tests of the urine are used to diagnose this disease. A shot of ceftriaxone 250 mg plus azithromycin 1 gm as a single dose or doxycycline 100mg twice daily for 1 week can be used for treatment. Once again all sexual partners in the last 60 days should be treated. Gonorrhea like chlamydia can present with a penile or vaginal discharge. Without treatment it may cause arthritis and pelvic inflammatory disease.

Genital Herpes. Over 500,000 office visits occur per year. Most of the time there are no symptoms and 20% of the population is affected. Symptoms can be genital skin ulcers with recurrences which usually burn out with time. If this disease is contracted in the third trimester, it can be transmitted to the child. Herpes can also be serious in patients with a poor immune system. People with herpes without symptoms will shed the virus on 3-10% of the days each month whereas with symptoms, the virus is shed on 66% of the days. Viral shedding without symptoms causes the virus to spread during intercourse and if the guy or girl has no symptoms the partner remains unaware. Condoms can help.

Screening is not recommended because such a large number of people have the disease. There is a 5-10% chance of acquiring this disease from an infected partner each year. Suppressive therapy decreases viral shedding by 50% and it will decrease sexual transmission by 50% as well.

The chances of getting herpes from an infected partner during one episode of sexual intercourse is fortunately .3% or less. A blood test for herpes by PCR is the standard and measures herpes DNA. Once the test is positive, it remains positive for life.

Treatment with first time herpes shortens the course by 2-5 days. With recurrent episodes, treatment with acyclovir may shorten episodes by hours to just 1 day. 4% of patients will have recurrent herpes and suppressive therapy can help. Usually herpes will burn itself out over a few years.

Both herpes 1 (usually cold sores in the mouth) and herpes 2 can cause genital herpes but herpes 2 is more commonly found in the genitals.

HPV. This virus is the main cause of cervical cancer and vaccination is recommended in both men and women as seen under cervical cancer.

Syphilis. This disease is caused by a spirochete and the disease is often called the great imitator because it can mimic so many diseases. Men who have sex with men should be tested yearly. Primary syphilis develops within 90 days of exposure and a painless ulcerated lesion can be seen on the genitals called a chancre. Within 2-8 weeks secondary syphilis occurs often as a rash on the palms and soles. Oral lesions, warts and other organ involvement can occur. Tertiary syphilis can then occur and often involves the central nervous system and the heart. Latent syphilis

refers to syphilis without symptoms and develops after secondary syphilis. It is diagnosed by doing a spinal tap.

Nontreponemal blood tests (RPR and VDRL) can be used to diagnose syphilis and picks up 70-80% of primary syphilis and 98% of secondary syphilis. They can be used to follow treatment of syphilis and levels go down 4 fold with successful treatment. Treponema tests (FTA and TPPA) can help verify syphilis and are more specific. These tests can still miss primary syphilis but when they turn positive, they remain positive in 90% for life despite treatment. Often blood tests miss neurosyphilis and the spinal fluid needs to be examined for VDRL, white cells and protein. A shot of Benzathine penicillin cures primary and secondary syphilis while a more extensive penicillin regimen is needed for more advanced syphilis.

HIV. There are 1.2 million plus cases of HIV in the USA and 13% of this group do not know that they have the disease. Screening is recommended at least once between the ages of 13-64. The highest risk individuals are men who have sex with men. Such individuals should have HIV tests at least yearly. Other reasons to test include, having an STD, having hepatitis or TB, multiple sexual partners, being a prostitute, doing IV drugs or sharing needles.

Symptoms can range from a mild flu like illness to a multi system disease including fever, lymph nodes, muscle aches, mouth sores, rash, sore throat and meningitis. Symptoms can begin a few days to 10 weeks after exposure.

Testing can include HIV 1 and 2 by ELISA antibodies and confirmation by the western blot test. However, a combo HIV 1 and 2 immunoassay plus an HIV 1 p24 antigen test is the screen of choice. The p24 test detects HIV 10-13 days post

exposure and the HIV 1 and 2 antibody screen turns positive after 20 days. If this combo test is positive then a specific HIV 1 and HIV 2 test are performed for verification. If the combo test is negative then you don't have the disease or you tested too soon.

If the specific HIV 1 and HIV 2 antibodies are indeterminate then an HIV nucleic acid test is done which measures the actual viral particle load. This test turns positive about 10 days after exposure and is referred to HIV-1 RNA. It is quite accurate. There is also a rapid test for HIV that takes just 30 minutes but if it is positive, it needs to be verified.

Early treatment can result in a life expectancy that mirrors the general population but treatment needs to be maintained for life.

Stem Cells For Arthritis. Does it really work?

It's the wave of the future. Small studies especially with the knees show some efficacy. Beware of the scammers.

Osteoarthritis (wear and tear arthritis) plagues millions of Americans.

Osteoarthritis is an inflammatory condition that is initiated by wear and tear on the joints. The knee, hips and base of the thumb are the most common joints involved.

Present treatments include Tylenol, up to 3000mg daily, NSAIDs or antiinflammatories such as ibuprofen or naproxen, oral/injectable steroids, topical NSAIDs like diclofenac, viscous, injectable supplementation such as Synvisc or Hyalgan, acupuncture, tai chi, water therapy, physical therapy and joint replacements.

Here's the problem; NSAIDs can raise pressure and increase heart disease, steroids can increase pressure and sugar, steroid injections can weaken ligaments, joint replacements can fail and have other side effects and most of these treatments stated above need to be repeated.

So what about stem cells. We already employ stem cells in our own bodies to repair most tissues. If you break a bone, then your own stem cells differentiate into bone producing cells called osteoblasts and the bone is repaired. If we harvest stem cells from our own body, then they can be reinjected into our knees, for example, to help with pain and disability. This is called autologous donation.

Does it really work?

Maybe. Like arthroscopy and other procedures, the placebo effect is quite high. According to *Exp Ther Med.* 2016; 12(5):3390-3400 (ISSN: 1792-0981), the effectiveness of stem cells was significant in relieving pain and improving functional status in the knee up to at least 2 years. Increasing the numbers of stem cells didn't matter even though it did matter in previous studies.

Please know that the quality of the studies is not great and we need more randomized, controlled, double blinded studies to determine the truth but progress has been made. The following is a review of several studies published in 2018. Please note the underlined parts.

Arthroscopy. 2018 Nov 16. piiS0749-8063(18)30616-9. doi: 10.1016/j.arthro.2018.07.028.

Intra-articular Mesenchymal Stem Cells in Osteoarthritis of the Knee: A Systematic Review of Clinical Outcomes and Evidence of Cartilage Repair.

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Author information

Abstract

PURPOSE:

To provide a systematic review of the clinical literature reporting the efficacy of mesenchymal stem cells (MSCs) in terms of clinical outcomes including pain and function and cartilage repair in patients with osteoarthritis.

METHODS:

We systematically reviewed any studies investigating clinical outcomes and cartilage repair after the clinical application of cell populations containing MSCs in human subjects with knee osteoarthritis through MEDLINE, EMBASE, the Cochrane Library, CINAHL, Web of Science, and Scopus. Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines were followed. Studies with a level of evidence of IV or V were excluded. Methodological quality was assessed using the Modified Coleman Methodology Score. Clinical outcomes were assessed using clinical scores, and cartilage repair was assessed using magnetic resonance imaging and second-look arthroscopy findings.

RESULTS:

A total of 17 studies that met the criteria of 50 full-text studies were included in this review, with 6 randomized controlled trials, 8 prospective observational studies, and 3 retrospective case-control studies. Among 17 studies, 8 studies used bone marrow-derived MSCs, 6 used adipose tissue-derived stromal vascular fraction, 2 used adipose tissue-derived MSCs, and 1 used umbilical cord blood-derived MSCs. All studies except 2 reported significantly better clinical outcomes in the MSC group or improved clinical outcomes at final follow-up. In terms of cartilage repair, 9 of 11 studies reported improvement of the cartilage state on magnetic resonance imaging, and 6 of 7 studies reported repaired tissue on second-look arthroscopy. The mean Modified Coleman Methodology Score was 55.5 ± 15.5 (range, 28-74).

CONCLUSIONS:

Intra-articular MSCs provide improvements in pain and function in knee osteoarthritis at short-term follow-up (<28 months) in many cases. Some efficacy has been shown of MSCs for cartilage repair in osteoarthritis; however, the evidence of efficacy of intra-articular MSCs on both clinical outcomes and cartilage repair remains limited.

Maybe it is all just placebo, right?

Arthroscopy, according to 2 studies, doesn't work any better than sham arthroscopy in both the young and elderly. There are exceptions but my main point is that arthroscopy is a powerful placebo. Stem cell harvesting and ultrasound guided injections may also have a strong placebo effect. Still, our bias is that stem cell replacement will eventually supplant many orthopedic surgical procedures. Currently, small randomized controlled trials show efficacy.

How much does it cost?

The costs vary and can range from 3000-6000 dollars a joint. Stem cells have been injected into the back, hips, knees, shoulders and other joints and tendons. Be aware that there are many fraudulent companies out there because the costs for the procedure is expensive and insurance hardly ever reimburses. This is a money maker. On the other hand, legitimate companies do exist as well.

Where should I go?

Many of these companies are scam artists and are breaking the law. We have 2 good suggestions:

Consider Regenexx since they have done 50% of the research, have the research laboratories, and have been in business the longest (since 2004). They have also conducted safety studies and found that stem cell replacement to be fairly safe for orthopedic procedures. We also utilize Chad Prodromos MD (847 699 6810) for PRP and stem cells. He has long term experience in this field and follows the FDA laws.

We have no financial or scientific association with any stem cell firm. Our desire is to be transparent and helpful in a very complex field.

What stem cells work the best?

This answer is not completely known. Typically the stem cells are harvested from the fat surrounding your belly and the bone marrow in the back of the pelvis. They can also be collected from your blood. These procedures are relatively easy and involve minimal discomfort.

Are stem cells FDA approved?

No they are not but certain methods are FDA cleared so it is OK for the doc to perform the procedure. The doc just cannot claim that his or her procedure treats any condition.

There are two categories of HCT/P (the abbreviation for human tissue).

One is a 361 product and your doc is allowed to give it without restriction. It includes any product from your own blood and bone marrow. It also includes your own fat with some restrictions.

Docs are only allowed to reinject tissue from yourself, or a first degree relative. Your own stem cells must be injected right after collection. They cannot be allowed to grow for days or weeks.

The second product category is 351 and this means everything else, and any tissue donated from a non 1st degree relative. Umbilical cord blood and amniotic fluid would be 351

products and this necessitates a drug application which requires years of research and millions of dollars. Even if your own stem cells are grown, the FDA deems that to be a drug or a 351 product since your cells are being manipulated.

Unfortunately amniotic fluid and umbilical cord blood contains very few stem cells or MSC (mesenchymal stem cells). And by the time the company gets the cells, they are almost always dead. Companies cannot claim to inject live umbilical cord stem cells otherwise it is a drug and drug approvals take both time and money.

Therefore you are either receiving dead cells and paying 1000s of dollars for what you thought to be live stem cells OR somehow you are receiving live cells illegally because such cells are not an FDA approved drug. Apparently, either way you are being scammed.

Cord blood does contain hematopoietic stem cells for bone marrow transplants but these cells are alive and such transplants are approved by the FDA for leukemia and other blood disorders.

Once again, if a company claims to be giving you live umbilical cord stem cells for healing your knee, then that company has broken the law. They are pretending to deliver a drug and you are being scammed.

A company just can't deliver a foreign substance to you and call it a drug. Once again to get a drug approved by the FDA requires detailed clinical studies, millions of dollars and countless applications. We are emphasizing going legal because many stem cell companies are scam artists because there is a lot of money to be made.

Ok, then why do some patients claim success with dead cells?

Often patients are receiving PRP or platelet rich plasma with the dead stem cells. PRP comes from a special filtrate of your own blood and may actually help with joint pains. This filtrate contains many growth factors with healing properties. Trouble is...many companies are charging thousands of dollars for dead stem cells plus PRP. Usually the PRP only costs a few hundred dollars a joint.

So what should I do?

Avoid the above scam. Have a reputable company harvest your own stem cells and immediately inject you. They should not advertise that the procedure is indicated for any particular condition because your own stem cells are not an FDA approved drug. But they can discuss the pros and cons of the current studies. There are reputable clinics as stated above BUT *buyer beware*.

What about other stem cell projects besides the orthopedic procedures?

Other stem cell projects haven't fared as well. Homologous (from your own body) stem cells were injected for metastatic breast cancer and proved costly and disastrous.

Homologous stem cells were injected into a patient's kidney who had lupus and he required a nephrectomy due to new tumors in his kidneys.

Homologous fat cells were injected into the back of the eye for the treatment of macular degeneration and the patient went blind.

A patient received stem cells from another person that were injected into his brain due to a stroke. Tumors developed and the subject became paralyzed.

The future does look bright. One day we see joint replacements being replaced by stem cell technology but right now be cautious, investigate and do your research.

Stress. Do you really think stress is a killer?

Stress causes disease because it affects our emotional well being. Meditation is but one of many treatments.

Increased stress correlates with poor health according to many studies. For instance, Hurricane Katrina victims have three times the rate of heart attacks as compared to people who were not in this catastrophic storm.

Police officers have a significant increase in sudden death due to stress not bullets.

There is even a 50% increased mortality with a significant monetary loss per JAMA. 2018;319(13):1341-1350. Major stress should be bottled with a warning; stress is deleterious to your health.

Meditation can reduce stress, chronic pain, blood pressure and depression. It can also reduce future heart attacks by 50%, if you have already had one. It is another great way to bring happiness in your life and like anything else, it requires a little practice.

We particularly like the peace meditation, which reduces stress and high blood pressure. Take a breath, exhale and think peace. Peeeeeaaaccce. Do it while waiting in line or if you feel anxious.

Just slow it down. Start by focusing on just one breath a day and don't stress yourself out over a stress reducing technique! Eventually make it daily habit and steadily devote more time to this wondrous stress reducing strategy.

Sunscreens and sunburn. Can you give me the scoop?

Have fun in the sun but UVA causes skin cancer and UVB causes the burn so learn how to protect yourself.

Millions of people are treated every year for skin cancer and thousands of people die. Nearly 90% of cases of skin cancer are associated with exposure to solar and artificial ultraviolet (UV) radiation. Sunscreens can help prevent these cancers, and prevent premature skin aging; however, they are often used incorrectly (or not at all). The deadliest cancer, melanoma, can be reduced by 50% with the proper use of sunscreens.

General Advice

- Use a sunscreen with an SPF of at least 15 (per FDA)
- Limit time in the sun, especially between 10 AM and 2 PM when there is more direct exposure.
- Apply sunscreen every morning to exposed areas.
- Reapply sunscreen at least every 2 hours, and right after sweating or swimming.
- Apply sunscreen 15 to 30 minutes before sun exposure for the best protection.
- Protect the skin from the sun with long-sleeved shirts, pants, and broad-brimmed hats.

- Use a lip balm with SPF 30 or higher to protect the lips from sunburn and damage.
- Use a sunscreen that is labeled broad spectrum to obtain protection from both UVA and UVB rays.
- Find a formulation that is easy to apply and feels good on the skin ensuring its usage.
- Wet clothing allows more UV rays to pass thru than dry clothing. Tightly woven dry clothing (can't see the sun thru the clothes) is very protective. Clothing labeled UPF=ultraviolet protection factor is protective against UV light.

Important Terms

SPF (sun protection factor): In general, the higher the SPF, the better the protection against sunburn. SPF 15 blocks about 93% of UVB rays, SPF 30 about 97% and SPF 50 about 98%.

Broad spectrum. UVB rays cause sunburn, and UVA rays cause cancer and early skin aging. Broad-spectrum sunscreens work against both UVA and UVB radiation.

Water resistant. The label must indicate whether the sunscreen remains effective for 40 minutes or 80 minutes while a person is swimming or sweating. No sunscreen is water proof.

Sun tan lotions

There are questions about sunscreen safety brought on by Hawaii's move to ban two sunscreen ingredients, oxybenzone and octinoxate starting in 2021.

These ingredients are found in many sunscreen products and they're linked to damaging sea coral and altering sex hormones of ocean wildlife. But this isn't proven yet. In fact, many coral reefs are damaged that humans hardly visit. Warmer waters may play a role. The FDA still says these are safe for people.

Sunscreens protect against skin cancer and can reduce the incidence by 50%. Vitamin D may be blocked but you can always supplement with vitamin D3.

Chemical sunscreens usually include combos of avobenzone, homosalate, octinoxate, oxybenzone, etc. Benzones can produce skin allergies upon sun exposure.

These sunscreens are the most common products and easiest to apply.

Physical or "mineral" sunscreens contain titanium dioxide or zinc oxide and are not linked to environmental or hormonal problems. Physical sunscreens can be thicker and more difficult to apply. Nanoparticle formulations may rub in easier and they are not absorbed.

If you are worried about environmental concerns or photo allergies, then a physical sunscreen (Neutrogena Sheer Zinc, etc) or a chemical sunscreen without oxybenzone or octinoxate (Coppertone Sport Lotion) can be used.

Do not to rely on ORAL "sunscreen" supplements such as Sunsafe Rx, Heliocare, etc. These cannot replace a topical sunscreen.

Treating a sunburn

Use cool compresses for 10-30 minutes but not ice.

Eucerin can be soothing if there is no skin breakdown.

Anti-inflammatories and tylenol can reduce the pain.

Topical steroids don't help and aloe isn't proven to work.

Topical anesthetics such as benzocaine only provide brief relief and can sensitize the skin.

Sweeteners. Are they sweet for you?

Probably none of them are good for you but more studies are needed.

Artificial sweeteners have been controversial for years and many false claims have been made but lately we have been seeing more information on this interesting topic.



What are the types of sweeteners?

Artificial sweeteners include aspartame (NutraSweet), saccharin and sucralose (Splenda).

Is there a natural sugar substitute?

Yes there is. Stevia is a member of the sunflower species and it used to be my favorite artificial sweetener because it was natural and broken down by our intestines as opposed to the other artificial sweeteners. Stevia may also raise blood pressure a bit which is potential negative.

Why are you worried about artificial sweeteners and type 2 diabetes since they don't contain any calories?

I wish it were that simple but it isn't. We already know that sweetened beverages increase the risk of diabetes independent of fat tissue per BMJ 2015;351:h3576. So added sugar, weight gain and genetics all correlate with the development of type 2 diabetes. But in this same study, fruit juices and artificial sweeteners seemed to also correlate with the incidence of diabetes but this is just an association and not proven.

In another very small study patients who were given Splenda (sucralose) had higher sugar and insulin levels vs. the control group. In fact insulin levels went up by 20% as if actual sugar was given. When they reversed the intervention so that the control group received sucralose, the same result occurred.

None of these studies prove that diet drinks lead to diabetes but they are suggestive. Additionally, a former teacher of ours who is an endocrinologist found that diet beverages raised sugar levels in many of his patients with diabetes and a low blood sugar due to insulin. Sugar is still recommended for hypoglycemia but it is interesting that artificial sweeteners also caused sugars to rise. Some studies show these fake sugars are causing more real sugar to be absorbed. More studies are needed about this subject.

So if artificial sweeteners might cause diabetes, what about weight gain?

A study from CMAJ July 17, 2017 vol. 189 no. 28 was a meta-analysis which looks at many different studies and pools them all together. The advantage is that you can examine tens of thousands of patients but the disadvantage is you cannot conclude that artificial sweeteners definitely cause weight gain. Ok, so what were the general conclusions?

The short term randomized controlled trials in this meta-analysis do not show a general decrease in weight and BMI as one would have expected.

The longer term observational trials included in the meta-analysis showed that regular use of artificial sweeteners may actually increase your weight and contribute to stroke, heart disease, obesity and type 2 diabetes...wow!

Even an analysis of 4000 patients from the famous Framingham Study (specifically the Framingham Heart Study Offspring cohort), showed that higher consumption of artificially sweetened beverages increases the incidence of dementia and ischemic stroke.

Finally, these sweeteners modify the micro-biome which is the bacteria in our gut. These bacteria help with our immune system and assist with digestion. We are unsure about how these changes in the gut will affect our bodies.

Ok, great, so what do we drink?

I used to think stevia was the best product because it is the most natural. But now studies cast the specter of suspicion on stevia as well. Drink more water is the best solution. Now, look how much money we saved you!

That being said, raw honey might be used in small quantities to sweeten items. Aristotle wrote about the benefits of honey in 350 B.C. In a trial from Saudi J Biol Sci. 2017 Jul;24(5), honey actually reduced blood sugar.

Another randomized controlled trial from Int J Food Sci Nutr. 2009; 60(7):618-26, showed that LDL or bad cholesterol decreased along with cholesterol and triglycerides but HbA1C (average sugar over 3 months) increased.

In most studies small amounts of honey seem helpful as a natural sweetener and didn't raise sugar levels. Honey is sweeter than sugar and contains antioxidants in addition to vitamins and some pollen (healthy protein). For an analysis of honey brands, see <http://www.foodsafetynews.com/2011/11/tests-show-most-store-honey-isnt-honey/#.WW2Gh7FOmfA> Choose raw, unfiltered honey.

Or just limit your consumption of beverages with artificial sweeteners. Balance is the key.

Travel. How do I stay safe?

Diarrhea

Traveler's diarrhea affects up to 70% of travelers primarily in developing areas in Africa, Asia, Mexico, South America, etc.

Avoid raw foods, tap water, ice, etc. If diarrhea does develop, stay hydrated and use loperamide (Imodium 1-2 tabs 4 times daily as needed) to treat mild diarrhea. Bismuth subsalicylate (pepto

bismal) is another option but it has a slower onset of action and is less effective.

For more severe diarrhea, ciprofloxacin or azithromycin for 1 to 3 days can be used. A new antibiotic, rifamycin can also be utilized. Azithromycin is favored for pregnant women, kids, and visitors to areas with quinolone (cipro) resistance, such as Southeast Asia.

Get Vaccinated

Vaccines for hepatitis A and B, typhoid fever, and other illnesses are often recommended and some vaccines, such as yellow fever, may even be required. Certainly get your flu shot every fall. See the section on vaccines for more travel info.

Get vaccines early in case of shortages.

Insect Repellents

Mosquito-borne illnesses such as Zika (fever rash, fetal defects), dengue (high fever, bad body aches), malaria (recurrent fever, 1 million global deaths per year) etc. require preventive measures such as insect repellents (DEET) and protective clothing. Mosquitos often feed at dawn and dusk.

Antimalarial meds (atovaquone/proguanil, etc) before, during, and after travel to many tropical areas in Africa, Asia, etc.

Altitude Sickness

Altitude sickness is usually mild and manifests with headaches, dizziness and nausea. More severe forms can cause fluid build up in the lungs or even brain. Medications can be given in higher risk situations such as going up 11,000 feet or more in one day. If there is a history of altitude sickness at 9000 feet, drugs can be given preventively.

Acetazolamide is used first line at 125-250 mg twice daily. In general, start acetazolamide a day before ascent and continue for 2 days after reaching the destination.

Avoid acetazolamide if you have a severe sulfa allergy and not just an allergic rash since it's a sulfonamide which is a distant cousin of sulfa. Dexamethasone can be used as a substitute if you can't take acetazolamide.

Meds are usually not required if you travel up to a high altitude and down in the same day.

Checklist (Everything listed is over the counter except azithromycin)

Items to bring can include a z pack (azithromycin) for severe diarrhea, 1 % hydrocortisone for itching, immodium for diarrhea, pepto bismal for nausea or diarrhea, DEET spray to protect against Zika, malaria etc., a small umbrella, sun tan spray or lotion, loratadine for allergies, bonine for sea sickness or vertigo, famotidine for heartburn, Acetaminophen/ibuprofen for fever or pain, bandaids in your wallet and a card containing a list of your list of meds, allergies and your doc's contact information. Bring extra prescription medicines in case of flight cancelations or delays.

Bring your passport, some cash, your driver's license, an extra pair of clothes in a carry on piece of luggage. Finally, consider labeling your luggage as fragile, put a colored ribbon on the handle and your name as well. Luggage labeled fragile usually comes off the plane first.

Vaccines. Do I need the new shingles vaccine if I've had shingles or if I've had the old shingles vaccine? Is the flu vaccine worthwhile and which one? When should I take Tamiflu? Most of the data comes from www.CDC.gov

Next to fresh running water and antibiotics, vaccines have saved countless lives.

Flu Vaccine

Flu causes 20,000-70,000 deaths in the United States yearly because a person acquires the influenza virus and this leads to pneumonia and eventual respiratory failure.

Take the flu shot every year. It protects against H1N1, the most common flu strain, and *it may help to prevent heart disease as well.* It can be 20-70% effective and can prevent both pneumonia and death as a result of the flu. At the very least, it may help prevent a week or more lost time from work. So you may prevent the disease or have a milder case by taking this vaccine. More importantly, it prevents death especially in the young, elderly and immune-compromised.

Take the flu vaccine as soon as it comes out in Aug. and Sept. It lasts for 6 months and peak flu season is usually Jan. or Feb. You cannot get the flu or a cold from the flu shot. The shot is even more effective if taken in the morning rather than later during the day.

High dose flu shots are recommended for persons ages 65 and over. Regular dose flu shots are given at ages 18 thru 64. Greater antibodies levels occur with the high dose shot with about the same side effects.

Flu symptoms include fever and bad muscle aches while with a cold, runny nose and cough predominates.

If you are allergic to eggs, you may still take the flu shot if the reaction was hives. If the reaction to eggs involved throat closure or lip swelling, take Flublok which has no eggs in it. The usual flu shot is made from an egg base.

The flu vaccine does not cause the flu or a cold and it doesn't cause autism. Single vial flu shots have no ethyl-mercury.

Average risk patients do NOT need tamiflu as it only shortens the duration by 1-2 days. The flu shot often helps to make the flu milder if one should acquire the disease.

Tamiflu, an anti-viral agent, is worthwhile taking if you acquire the flu and are at high risk. High risk means:

- Asthma
- Neurologic and neurodevelopment conditions
- Blood disorders (such as sickle cell disease)
- Chronic lung disease (such as chronic obstructive pulmonary disease [COPD] and cystic fibrosis)
- Endocrine disorders (such as diabetes mellitus)

- Heart disease (such as congenital heart disease, congestive heart failure and coronary artery disease)
- Kidney disorders
- Liver disorders
- Metabolic disorders (such as inherited metabolic disorders and mitochondrial disorders)
- People who are obese with a body mass index [BMI] of 40 or higher
- People younger than 19 years of age on long-term aspirin- or salicylate-containing medications.
- People with a weakened immune system due to disease or medication (such as —people with HIV or AIDS, or cancer, or those on chronic steroids)
- Adults 65 years and older
- Children younger than 2 years old
- Pregnant women and women up to 2 weeks after the end of pregnancy
- American Indians and Alaska Natives
- People who live in nursing homes and other long-term care facilities

These anti-viral drugs should be started within 48 hours to be effective but in severely ill patients or hospitalized individuals, the drug can be started after 48 hours and may possibly have some effect. Also longer courses of Tamiflu can be considered in

patients who remain severely ill after 5 days. The usual dose is 75mg twice daily for 5 days.

If there is moderate (stage 3) kidney disease, then 30 mg twice daily or less is indicated. Tamiflu shortens the flu by about 1-2 days but may prevent pneumonia from occurring in a higher risk person. The most common side effects are nausea and headache.

Ways to prevent the flu may include:

- Washing your hands often.
- Getting the flu shot yearly.
- Keeping a humidifier in the house at 30-50% (flu doesn't like dry air)
- Vitamin C plus zinc and a probiotic might help to prevent respiratory infections.

Tamiflu is 70-90% effective in preventing the flu if you are exposed but don't already have the flu. Prevention should be instituted if flu exposure occurs in a nursing home setting or if the patient is receiving immunosuppressive medications and is not expected to respond to the flu shot. Use Tamiflu if a high risk patient cannot take the flu shot or if the flu shot was just given within 2 weeks.

If you are in one of the categories listed above and a household contact develops the flu, then 75 mg daily can be taken for 10 days following exposure and up to 6 weeks during a community outbreak. In immunocompromised patients, Tamiflu may be continued for up to 12 weeks. The duration of protection lasts for as long as Tamiflu is given. It must be given within 48 hours of exposure or it won't be effective.

A new “Tamiflu” called Xofluza is a new anti-viral for flu and only requires one dose. It reduces flu by a day and has less nausea than Tamiflu. Dairy products impair absorption but it is only 1 dose. Stick to Tamiflu for now.

Pneumonia Vaccines

Take the pneumonia vaccine or PPSV23 (Pneumovax) at age 66 or even earlier if you have a weak immune system. This vaccine may be repeated 5 years after the first one if given between ages 18-64. Once it is given at age 66, it is good for life.

A 2nd pneumonia vaccine, called PCV 13 or Prevnar, should also be completed. Often, this vaccine is given first at age 65 followed by Pneumovax at age 66. Both of these vaccines complement each other and protect against pneumococcal pneumonia. Prevnar is a one time vaccine. Both pneumonia vaccines may help prevent heart disease by reducing inflammation.

Prevnar is only given once per lifetime. Generally Prevnar is given before Pneumovax. The maximum number of Pneumovax vaccines given is 3 in a lifetime.

Yes, the rules are complex but we doubt most docs remember these guidelines so we wanted to make sure that you have the info.

The capsule summary taken from the Cleveland Clinic as seen in the chart.

Example: 50 year old male diabetic. He gets PPSV23 (Pneumovax) now. He does not take another one in 5 years. At age 65, he gets PCV 13 (Prevnar) and then PPSV23 (Pneumovax) at age 66.

TABLE 1

Indications for PCV13 and PPSV23 for at-risk adults^a

Risk group	PCV13	PPSV23	PPSV23 revaccination 5 years after first dose
At-risk patients ages 19 to 64 with comorbid conditions			
Immunocompetent persons with chronic heart disease, ^b chronic lung disease, ^c diabetes mellitus, alcoholism, chronic liver disease, cirrhosis, or cigarette smoking	No	Yes	No
Persons with cerebrospinal fluid leak or cochlear implants	Yes	Yes	No
Immunocompromised and asplenic patients			
Persons with functional or anatomic asplenia (sickle cell disease, other hemoglobinopathy, or congenital or acquired asplenia)	Yes	Yes	Yes
Immunocompromised persons, ie, with congenital or acquired immunodeficiency, ^d human immunodeficiency virus infection, chronic renal failure, nephrotic syndrome, leukemia, lymphoma, Hodgkin disease, generalized malignancy, iatrogenic immunosuppression, ^e solid organ transplant, or multiple myeloma	Yes	Yes	Yes

PCV13 = pneumococcal conjugate vaccine-13; PPSV23 = pneumococcal polysaccharide vaccine-23

^a All adults age 65 and older should receive a dose of PPSV23, regardless of previous history of vaccination with pneumococcal vaccine.

^b Including congestive heart failure and cardiomyopathies, excluding hypertension.

^c Including chronic obstructive pulmonary disease, emphysema, and asthma.

^d Includes B- (humoral) or T-lymphocyte deficiency, complement deficiencies (particularly C1, C2, C3, and C4 deficiencies), and phagocytic disorders (excluding chronic granulomatous disease).

^e Diseases requiring treatment with immunosuppressive therapy, including long-term systemic corticosteroids and radiation therapy.

Adapted from US Centers for Disease Control and Prevention (CDC). Use of 13-valent pneumococcal conjugate vaccine and 23-valent pneumococcal polysaccharide vaccine for adults with immunocompromising conditions: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR Morb Mortal Wkly Rep 2012; 61:816–819.

Example: A 50 year old female leukemic patient. She gets PCV 13 (Pneumovax) now followed by PPSV23 (Pneumovax) 8 weeks later. At age 55 (5 years later) she receives another PPSV23 (Pneumovax). At age 65 she receives her final PPSV23 (Pneumovax).

Once again, only one Pnevna is given per lifetime. If you are not in the above categories seen in the chart, then you should obtain Pnevna at age 65 and Pneumovax at age 66.

Tetanus and diphtheria (Td) is given every 10 years for prevention of these diseases. If you get cut, consider updating the shot within 5 years. Like the flu vaccine and pneumonia vaccines, it is not a

live vaccine. Arm soreness is a common side effect similar to both the flu and pneumonia vaccines.

Tetanus is a fatal bacteria that exists in soil and diphtheria is another fatal bacteria that causes lockjaw, respiratory obstruction and heart failure. Fortunately, due to national vaccination programs, we have never seen a case of tetanus or diphtheria. There is a resurgence of pertussis or whooping cough so make sure that you receive a one time dose of Tdap which is tetanus, diphtheria and pertussis (whooping cough). Children are given this vaccine at age 11-12 and adults should get a one time dose. Pregnant women in their third trimester should receive this vaccine. Babies between 0-12 months are particularly vulnerable so grandparents should make sure that they have received their one time shot of Tdap or Boostrix.

There is one other point to make. If you have a dirty wound (contaminated by manure or soil) and you haven't had your primary series of tetanus then you should also receive TIG or tetanus immunoglobulin in addition to starting your series of tetanus shots. TIG helps to prevent tetanus.

Hepatitis A Vaccine

Obtain the Hepatitis A vaccine if you go out of the country. The main exceptions are Canada, Europe, Israel and Australia. Hepatitis A is acquired from shellfish or from food handlers who do not wash their hands. This is a series of two vaccines given at least 6 months apart. Other high risk groups who should be vaccinated include men who have sex with men, IV drug abusers, and household contacts who are exposed to hepatitis A. Newborns are now given this vaccine. It is a series of two shots 6 months apart and the vaccine provides immunity for a lifetime.

Hepatitis B Vaccine

Obtain the hepatitis B vaccine, which is a series of 3 shots (0,1 and 6 months), if you are a health care provider, have HIV, are a man having sex with men, have chronic liver disease, have sexual exposure risk, are an IV drug user, have risk of exposure to hep B blood products, have a travel risk, are a household contact, diabetics esp under 60, dialysis etc.

Meningococcal Vaccines

The meningococcal vaccine, Menactra, contains 4 strains, A,C,W,Y (Men ACWY) and it should be given at age 11 or 12 with a booster at age 16. The vaccine should be given every 5 years in immunocompromised patients (HIV, complement deficiency, anatomical or functional asplenia, on a drug called eculizumab). Anatomical asplenia means that the spleen is removed and functional asplenia means that the spleen doesn't function due to a disease like sickle cell.

A single dose of Menactra should be given to military recruits, travelers to the African meningitis belt and other destinations, first year college students living in residential dorms who have not been vaccinated. Continue the vaccine every 5 years if the risk persists.

Teens and young adults (16 through 23 year olds) can also be vaccinated against strain B (Men B) in the form of Bexsero (2 shots one month apart) or Trumenba (2 shots six months apart). Men B should also be given to immunocompromised patients (HIV, complement deficiency, anatomical or functional asplenia e.g no spleen or sickle cell disease or on a drug called eculizumab).

Hemophilus B Vaccine

Hemophilus influenza type B is a vaccine that is given to adults after a stem cell transplant or for anatomical or functional asplenia.

Oral Typhoid Vaccine

An oral live attenuated typhoid vaccine called Vivotif should be given to travelers at risk. It lasts for 5 years and is 50-80% effective in preventing typhoid fever. Each of the 4 capsules should be taken every other day with cool liquid no warmer than 98.6°F (37°C), approximately 1 hour before a meal and ≥2 hours after a previous meal. Pills should be kept refrigerated.

Malaria Prevention

Malaria prophylaxis with daily oral medicine before, during and after travel should be considered in higher risk areas such as Africa, Central and South America, parts of the Caribbean, Asia, Eastern Europe, and the South Pacific. Also use DEET and protective clothing for added protection as mosquitos transmit the disease.

Yellow Fever Vaccine

The yellow fever vaccine lasts about 10 years and is given at least 10 days before a trip to a higher risk region such as parts of S. America and Africa. Mosquitos transmit the virus and DEET plus protective clothing is advised.

Travel advisories change frequently so tell your health care provider your travel plans so you can receive updated information. CDC.gov is an excellent resource.

Gardasil has been discussed under cervical cancer.

Shingles Vaccine

Shingrix, a new shingles vaccine, was released in Oct, 2017 and is favored over Zostavax, the older vaccine. Shingrix has a 96% efficacy between the ages of 50-69 and a 91% efficacy in the elderly. In 4 years, it is still 85% effective in older adults.

2 shots are given 2 months to 6 months apart at age 50 or older. It's a dead vaccine, as opposed to Zostavax which is an attenuated live vaccine. It must be given into the muscle as opposed to just under the skin with Zostavax. Also, even if you have already had Zostavax, get both Shingrix shots for even better protection. The vaccine became available in 2018. Headache and arm soreness are common side effects.

Once you get chicken pox as a kid, the virus remains dormant in the spinal cord until it reactivates decades later in the form of shingles. One out of 4 people 50 and older get this painful rash.

The worst thing about shingles is post herpetic neuralgia, which is a painful syndrome after the rash is gone that may last years. Therefore, get the pain treated early so that this prolonged syndrome doesn't occur. Medicines that are used include antivirals (Valtrex), steroids, Lyrica, gabapentin, calamine lotion and a spinal epidural shot. Help avoid this disease by obtaining the Shingrix vaccination.

Weight Loss—Why is it so hard to do and what can be done?

Obesity is a disease located in the hypothalamus of the brain.

Unfortunately, it's like treating high blood pressure in the 1960s,

we understand the lifestyle changes but only have a few medicines. Many drugs are in the pipeline.

The problem is that 70% of the nation is either overweight or obese. Arthritis, diabetes and sleep apnea are sky-rocketing due to obesity. Obesity is an actual disease as evidenced by inflammation in the hypothalamus of the brain. The brain fails to receive the hormonal input that causes one to feel full. It is hard to lose weight because metabolism slows and the hunger hormone, ghrelin, increases.

The key to losing weight is taking action by setting up follow-up appointments with your physician, dietician and/or weight loss psychologist. Form the team and stick with it! Portion control works better than exercise but both are important factors.

Weight Watchers remains the most successful weight loss program according to clinical studies. The power of the group is motivating.

Remember to keep a food journal, exercise daily or every other day, weigh each day and wear a pedometer. Aim for 10,000 steps daily, bring the right foods into your house and eat only when you're hungry. A great snack is air popped popcorn (not microwave or theater popcorn) with a little olive oil. It is a whole grain, gluten free and quite filling and can even be used as a meal substitute (no more than once a day).

The MyPlate approach increases satiety and decreases waist circumference even at 1 year. Essentially, you have a plate of food that is divided into quarters and includes whole grains, vegetables, fruits and proteins.

What is the best lifestyle change to lengthen your life?

Weight Loss Drug	Mechanism	Amount of Weight Loss	Side Effects
Belviq/ Locaserin s	Promotes satiety at serotonin 2C brain receptor	7.2 pounds more than placebo.	Nausea, headache, dizziness, hallucinations... be careful if using serotonin agents.
Qsymia/ Phentermine ER & Topirimate ER	Appetite reduction.	20 pounds more than placebo.	Nausea, mood change, tingling, glaucoma..do not use with MAO drugs
Contrave/ Bupropion ER & Naltrexone	Less food craving and appetite reduction.	9 pounds more than placebo.	Nausea, mood changes, high blood pressure, glaucoma-avoid with opioids and increased pressure
Xenical/orlistat	Inhibits intestinal lipase so less fat absorbed.	7.6 pounds more than placebo.	Gallstones, gas, stool incontinence... avoid in malabsorption.
Saxenda/Lira-glutide ds	Slows stomach contractions and decreases appetite. Injectable	9.6 pounds more than placebo.	Nausea, constipation, diarrhea...avoid with pancreatitis or medullary thyroid cancer.

It's the Mediterranean diet which consists of lower carbs, olive oil, fruits, vegetables, fish, whole grains and a little alcohol. Basically, you are reducing white rice pasta, white potatoes, sweets, chips and bread.

Sugar and processed foods increase weight, elevate the risk for cardiovascular disease, double the cancer risk and heighten the risk of dementia.

This approach reduces dementia, cancer and heart disease!

Wow, so the father of medicine, Hippocrates, was right. The best medicine is at the end of your fork. Ok, maybe they didn't have forks back in those days but you get the idea.

Losing weight can preserve your memory, reduce arthritis, cure sleep apnea, prevent diabetes, decrease cancer and lessen heart attacks.

Newer medications (Belviq, Qsymia, Saxenda and Contrave) and surgical procedures can also be beneficial. All of these weight loss medicines create a sense of fullness and help one lose about 5% of total body weight, but the results can vary. The chart gives a quick overview.

The side effect profiles are low, but these agents can be expensive so utilize the coupons provided by your health provider.

Such medicines are indicated if you are obese (a BMI of 30 or higher) or if you are overweight (a BMI of 27-30) with a cardiovascular risk factor such as diabetes, smoking, high cholesterol or high blood pressure. BMI stands for body mass index and charts are numerous on the internet.

Commonly, gastric sleeves are being performed in morbidly obese individuals. By simply making the stomach smaller with this laparoscopic, surgical procedure, significant weight loss can be realized. This surgery carries the same or less risk than a gall bladder operation. It is indicated for individuals who are obese, especially if there are additional cardiac risk factors.

You can lose up to 50% of your excess body weight. So if you should weigh 200 pounds but you actually weigh 300, then a gastric sleeve procedure can help you lose an additional 50

pounds. By the way, get Weight Loss Made Really Simple by going to this link: <https://doclipkis.convertri.com/lifesavers-newsletter>

Wills/DNR/Power of attorney. What does this all mean?

Get these documents prepared and executed. While you're at it, update your will and estate plans. Discuss the medical documents with your loved ones and your healthcare.

We all need to have a living will and medical power of attorney so our wishes may be honored if we are ill. Just like a will or trusts, these documents may need to be updated or reviewed. Review your important documents every few years or sooner if need be.

Living will

Such a document outlines your wishes for end of life care. Essentially it is an advanced directive. You can decide if you wish to have cardiopulmonary resuscitation, artificial nutrition with a feeding tube, dialysis and more. If you are unable to communicate then such documents become active.

Create a living will even when you are healthy. The document states your desires when you are ill and not oriented. A living will takes the burden off loved ones who may not know your wishes and puts you in control.

Let's say you want to be resuscitated unless your doctor deems your condition irreversible. Assume you don't have this document and you suffer a severe stroke and cannot talk. A close family member decides to keep you alive at all costs. You want to die but an uninformed family member makes sure that you get a feeding tube for nutrition and a ventilator when you stop breathing.

This is not a pretty sight plus your medical expenses skyrocket. Plan ahead and save yourself and loved ones the emotional trauma. Decide what you want well ahead of time. We suggest that you have a living will AND have a discussion with the person who you've designated to have power of attorney. Discuss your desires in detail to the best of your ability.

Most states require two witnesses for your signature and a few will require notarization.

Remember to share this document with your primary care physician and any others on your medical team. Also share these documents with your family and patient advocate. Discuss this document with your doc and the person who will have power of attorney so everyone is on the same page.

Medical power of attorney

This is another document that allows a representative such as a family member or friend to carry out your wishes. This person is designated as your health care agent or proxy. The living will does not account for all the possible medical scenarios and you need a representative to uphold your wishes. I urge you once again to have a candid discussion with your proxy so that this person truly honors your wishes and not their own.

Do you want a feeding tube for long term nutrition or a ventilator for breathing? When should your medicines be stopped if at all? Discuss common medical scenarios with your primary health care provider. Such a discussion is well worth the visit.

DNR

If you don't want to be resuscitated, then have a legal document state that you are DNR or do not resuscitate. This is usually a bright orange form.

Let family members know this and have the document readily available. For example, if the paramedics come to your house for an emergency and you end up having a cardiac arrest, you will be resuscitated if a family member doesn't know your wishes. Have the DNR form readily available. Plan ahead of time so that you ultimately have the control. Communicate all your wishes and give copies of the forms to your doc.

Vitamins. Do they work? Are they FDA approved?

We have a variety of healthy vitamins on our website www.DocLipkis.com and in the office. No supplement is FDA approved because there are not enough clinical studies to validate them. Nevertheless by combing the literature there are a few that stand out and may be useful. Follow standard medicine approaches first and complement this strategy with the use of reasonable supplements. Sign up for our e-newsletter by going to the above website.

Symptoms—A work in progress

Chest pain. When should I go to the ER?

Most new chest pain is not cardiac but the burden is too high for the patient to decide so the ER is the best bet.

10% of all chest pain is cardiac. *The don't miss causes of chest pain include heart attack, pulmonary embolus, aortic dissection, punctured lung and pneumonia.*

The history can help if the discomfort

Common causes of chest pain include acid reflux, musculoskeletal issues, gallbladder, panic disorder and the above listed conditions.

Unfortunately a normal EKG, relief of the pain with nitroglycerin or antacids and the chest pain history cannot fully rule out a cardiac event.

Constipation. There are so many choices, what to do?

Do I really have constipation?

- Difficulty passing stool
- Incomplete passage of stool
- Reduced frequency of bowel movements (e.g., <3x/week)

If there are alarm symptoms, get colon cancer screening.

- Change in bowel habits after 50 years of age
- Blood in stool
- Weight loss of 5 kg (10 lbs) or more in past six months
- Anemia
- Family history of colon cancer
- Refractory constipation

What medications can cause constipation

1. Antacids with aluminum or calcium, anticholinergics (e.g., tricyclic antidepressants, antihistamines, antipsychotics), antidiarrheals, beta-blockers, calcium channel blockers, calcium supplements, nonpotassium sparing diuretics, NSAIDs, oral iron supplements, opioids, 5-HT₃ receptor antagonists (e.g., ondansetron=zofran).
2. If yes, consider reducing the dose or switching to another medication if risks of the med outweigh its benefits.

What conditions can contribute to constipation?

1. Here is a list: Anxiety, autonomic neuropathy, chronic kidney disease, colorectal cancer, dementia, depression, diabetes, diverticulitis, hemorrhoids, hypercalcemia, hypokalemia, hypothyroidism, irritable bowel syndrome, multiple sclerosis, Parkinson's disease, rectal prolapse, stroke, systemic sclerosis (scleroderma).
2. If yes, treat the underlying cause if possible

Treatment

1. Behavioral. Consider toileting habits such as not "holding it," not rushing on the toilet, sitting on the toilet about 30 minutes after breakfast, and sitting on the toilet in a position where the knees are at least as high as the hips. Physical exercise and water can help.
2. Consider a 2 week trial of fiber such as Metamucil or Citracel.

3. May add miralax 1-2 capfuls twice daily which is a gentle osmotic laxative and/or add a saline laxative such as milk of magnesia 1-2 tbsp 1-3 times daily as needed.

4. Consider switching to or adding a stimulant laxative such as bisacodyl or senna if additional effects are needed.

5. Trulance, Amatiza and Linzess cause water to go into the colon and can be added or used alone. They are each approved for constipation and irritable bowel syndrome.

6. If lifestyle changes. OTC options and prescription are not effective after a trial period, consider diagnostic tests (e.g., anorectal manometry, rectal balloon expulsion, etc) to determine cause of constipation.

Appendix.

Dr. Evan Lipkis has written 3 books which are available in the office at a discount over Amazon. Please ask any staff including the physicians. Otherwise head over to Amazon and place Lipkis in the search box. Books include Healthy Mind Healthy Body,

Hacking Into Happiness, Live Longer And Healthier Now and The Popcorn Diet (Dec 2018).

Vitamins—See our favorite pics at **www.DocLipkis.com**

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Add 10 Years To Your Life AND Probably Much More By Lowering Inflammation.

- **Follow a Mediterranean diet**
- **Prevent Obesity**
- **Don't smoke**
- **Keep LDL at 100 and get an LDL particle count**
- **Exercise 3 times a week**
- **Stay away from addictions**
- **Keep the sugar normal...less than 100**
- **Maintain blood pressure around 130/80**

Want Dr. Evan Lipkis to lecture your group on preventive health care, happiness or the popcorn diet, just leave a message at 847 730 1100 or talk to Donna, the office manager.