

The Medical News Report

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www.themedicalnewsreport.com

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HAPPY NEW YEAR 2015

Stay healthy and well, my friends!!!

Welcome to 2015 and the 36th report. This completes 3 years of this report. I have updated some of the technology this past year to make it more reader friendly. The **medical report link** provides you with the current report. You can click on the below subjects and go directly to that subject. There is also a **subject index link in the website**, which is cataloged every three months, so if you want to research other subjects, the number of the report will be right next to it, and with one click you will go right to the report. You can print this report using the pdf. icon at the end of every report.

Let us hope 2015 will bring us more peace and happiness.



A great New Year's resolution!

Subjects for January:

- 1. Doctors** in training—what will they be like?
- 2. Osteoporosis** and its treatment
- 3. A Series on PTSD**-Not only a Soldier's disorder—
introduction--Part 1

4. Anti-depressants increase the likelihood of gastrointestinal bleeding—Solutions

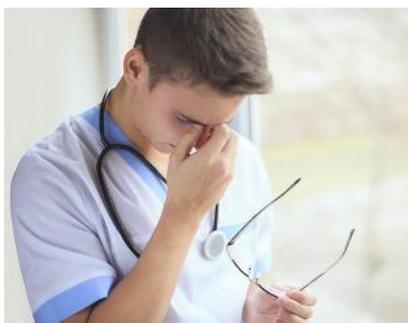
5. Bowel preps for Colonoscopy

6. Prostate Cancer—Part 4—alternative options-Active Surveillance and Watchful Waiting; Medical therapy for localized, advanced and metastatic disease

7. A final update on the Ebola crisis



1.A look at doctors in training—why there is discontent?



Even in the face of reducing hours in residency training, there continues to be discontent with the rigors of training. What has happened to these young doctors that they can't handle the stress and physical demands of becoming a physician? What does that mean for you as a

patient? As many as 20% of doctors training to be general surgeons either quit or seriously think about quitting (Medscape-General Surgery). The reasons cited are lack of sleep, too much stress, lack of mentoring, and being female. Over half of the medical students are now female, and this will greatly impact the field of medicine. These young doctors in training somehow think they can have a family life, with children, etc. and still have normal lives. Having gone through the gauntlet of training for 4 years of college, 4 years of medical school, 1 year of internship, residency for 1 year of general surgery, and 3 years of ENT/Head and Neck/Facial Plastic and Reconstructive Surgery, I promise you, it took me total concentration to meet the demands. It left little time for my family even though I had a wife and 3 children. I also moonlighted in emergency rooms to make ends meet. That is the hardest part. Those married to doctors in training have to sacrifice greatly, and the wife or husband has to assume the major role of the home. It is similar to the military experience. Expecting anything less is going to lead to trouble either at home, at work, or both.

I am beginning to think that the new doctors somehow are not well prepared to sacrifice like those in my era. We were not catered to, given days off, etc. With these new doctors only working 40 hours a week will have an impact on the time willing to practice after training. A 40 hour work week for a doctor would have been a joke in my day. I spent an average of 10 hours a day, and every 4th night on call with no time off the following day averaging 50-60 hours a week. Many nights on call were spent in the operating room all night. With a major shortage of doctor already beginning, especially in family practice, oncology,

psychiatry, and general surgery, etc. the public is not going to get timely, expert, dedicated, passionate doctors willing to spend 30 minutes on an office visit. Even if the doctor wants to spend that kind of time, employed ones will be on a quota and that will not allow the time for handling multiple diseases, and chit-chat about the family.

This unfortunate change in medicine equates to patients needing to get better informed about their medical issues and how to prevent disease. You must be organized and prepared for an office visit. Write your concerns down.

The government is encouraging the concept of patient-centered care. The Affordable Care Act (Obamacare) emphasizes so much on administrative issues, patient satisfaction, coordination of care, etc. That is not necessarily bad, but it takes time and physicians can't see enough patients by spending 15-20 minutes per patient to make a living. Pressure to compete with Nurse Practitioners is a reality with primary care physicians. I expect many nurse practitioners joining physicians to handle the volume. I still think they need to be supervised.

The triple plan for healthcare is:

- 1) Making care better,**
- 2) Increasing the quality of care**
- 3) Care for less cost. ????**

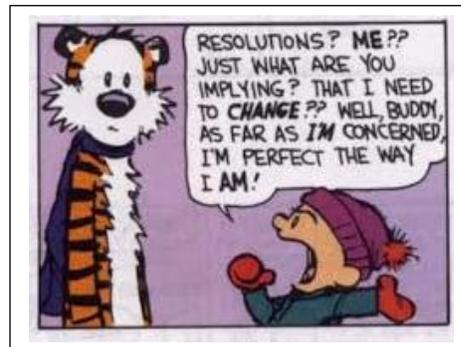
Everyone should know that healthcare costs are rising. And at this time, the federal Medicaid program is planning on a 50% cut in pay to primary care physicians. I think that will impact access to doctors unless they reverse that decision. 19% of the healthcare dollar cost is not reported.

The miscellaneous column is huge. We are in a crisis, and it was created by listening to too many academicians to create the healthcare reform (i.e.Gruber). It is “pie in the sky” medicine. The physician has a bull’s eye on their foreheads. Doing what is right for less cost is a great challenge, but it is just not realistic. The healthcare system struggles to comply with all the federal bureaucracy. Is it making things better??

It appears that employee doctors already in practice are finding this more to their liking so that the business of medicine is left to non-doctors. This may be the answer to some of the issues facing young doctors, but not having the option of private practice is a shame.

Reference- Medpage

New Year’ Resolution!



2. Osteoporosis and its Treatment

This subject is really an extension of the Endocrine System series in previous reports. The November report covered the parathyroid glands, which govern the calcium in our blood.

www.themedicalnewsreport.com/34

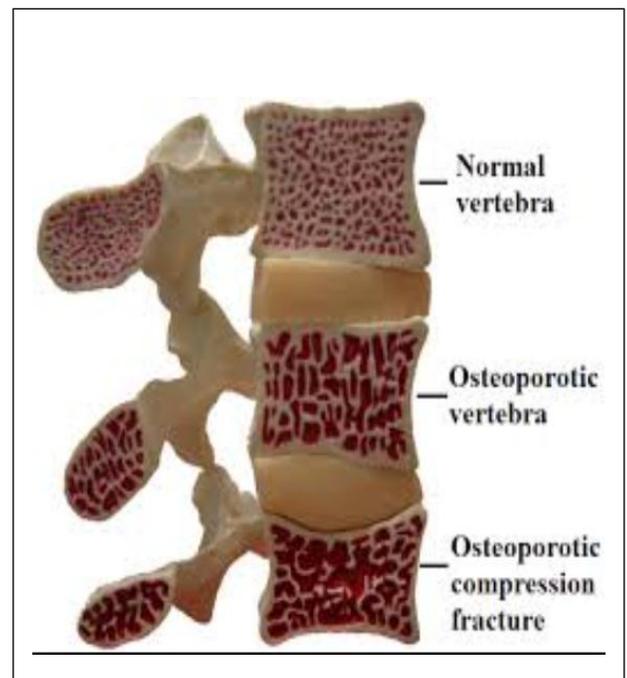
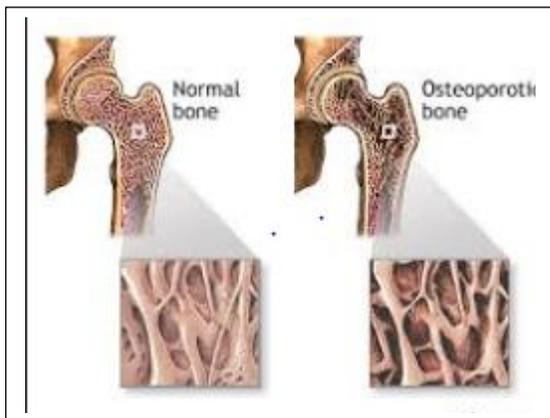
How calcium is handled by the body will determine the strength of bones. Bones are being constantly remodeled

with older cells dying (osteoclasts remove old bone) and new bone must be deposited (osteoblasts make new bone). When that system is interfered with by nutrition, drugs, hormones, cancer treatments, etc., osteoporosis can be the result.

Osteoporosis in U.S. Women and Men

	WOMEN	MEN
Average Age of Onset	65 years	75 years
Lifetime Incidence of Osteoporotic Fracture	25%	13%
Fraction of Hip Fractures Due to Osteoporosis	70%	30%
Criteria Used to Diagnose	T ≤ -2.5 or Fragility Fracture	T ≤ -2.5 or Fragility Fracture

Data from Burgo et al., 2007



10 million Americans have osteoporosis, and 34 million with osteopenia (low score on DEXA Scan). These drawings above demonstrate what a normal and osteoporotic bone looks like on the left. The second drawing on the right shows 3 vertebrae: a vertebra that is normal, osteoporotic, and fractured with compression.

50 year old women have a 40-50% lifetime chance of having a fracture. You know we all lose height as we age. I have lost 1 inch over the last 20 years thanks to my spine disease.



Osteoporosis is defined as loss of calcium in the bones creating bone thinning. With lack of the building block of bone, the bones become porous, and hence the name osteo (bone) porosis (porous). This disorder usually is most common in women as they become menopausal. However, it is important to note that men also have this disorder as they age (70), because of the lack of **Vitamin D** levels necessary to for the production and deposition of calcium in the bone or inadequate calcium in the diet. Fortified dairy products, meats, green vegetables and other foods are necessary to keep adequate blood levels of Vitamin D and calcium. 20 minutes of sun at least 3 times a week to a major portion of the body is also recommended to keep the Vitamin D levels adequate. However, unless you live in the Sunbelt and are out in the sun, you likely are not getting enough D from the sun. Sunscreen also blocks the UV rays to stimulate the skin to produce vitamin D. Darker races also do not absorb UV rays well.

As I have pointed out in the discussion of the body's management of calcium levels, it requires absorption of calcium in the gut and retention by the kidneys returning it to the blood. Even the hormone **calcitonin (secreted by the**

thyroid) is necessary for the amazing balance of this chemical.

The obvious end result of this disorder is **bone fractures** of the hip, spine, and extremities. This is to be prevented especially with more senior people.

The **workup** includes 1) **Vitamin D, calcium, and estrogen, thyroid** blood levels, 2) rule out **Kidney** disease—BUN and creatinine, urinalysis 3) **Hyperparathyroidism**-too much parathormone raises the calcium level by releasing calcium from bone 4) **Liver disease**—SGOT, SGPT, alkaline phosphotote, bilirubin 5) **Intestinal disease**—Crohn's, IBS, Celiac (Gluten), Ulcerative Colitis, Lactose intolerance, or anyone with chronic diarrhea lose calcium in the bowel. 6) **Hyperthyroidism**-overactive thyroid.

Women with **surgically or chemically created menopause** (estrogen sensitive cancers—breast and ovary, prostate in men) should consider a baseline DEXA scan and thereafter. Most women should have a discussion with their doctors when they become **pre-menopausal**.

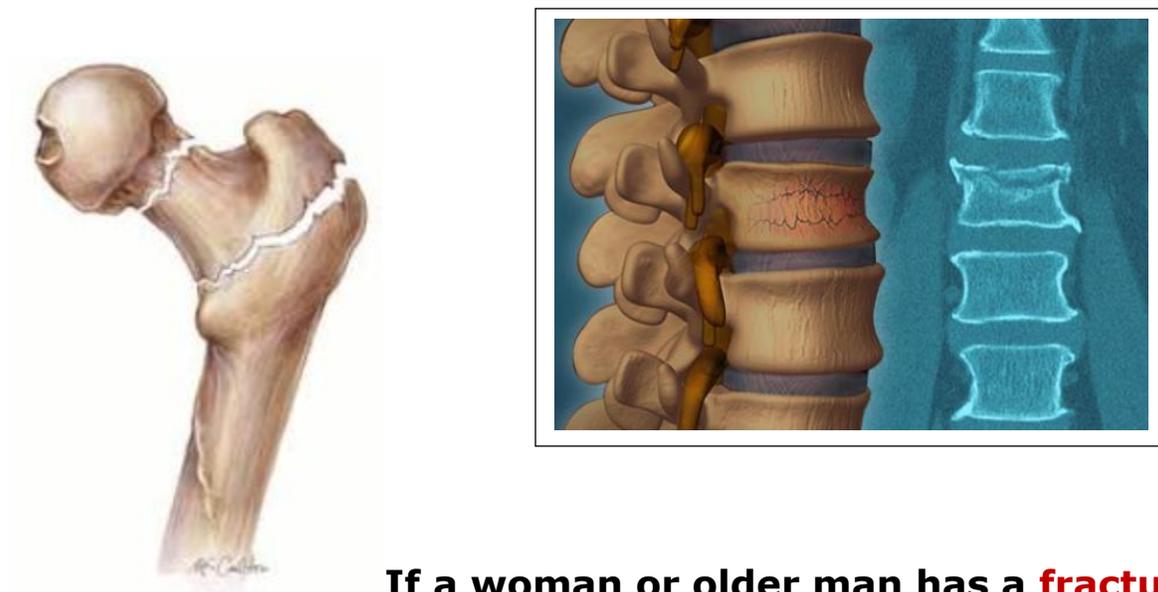
Routine screening is not recommended for all age groups. Men should discuss this with their doctor by the age of 70 (most are getting some degree of bone loss) and all women 65. If a woman is under 65 but post-menopausal, most doctors will consider treatment especially if there are risk factors. Women before menopause are usually not generally recommended for a scan, but the risk factors could be considered.

Risk Factors are:

1) A history of a **fracture**. 2) A current **smoker**. 3) A history of taking oral **steroids** (cortisone) for 3 months or more.

4) A body weight **under 127 lbs.** 5) Family member with a **fragility fracture or osteoporosis.** 6) Surgical or chemical menopause. 7) females over 65. 8) Men 70 and over. 9) Young women and older men 50-69 with other risk factors from this list. 10) Anti-breast cancer drugs-aromatase inhibitors (Arimedex, Aromasin, Femara), Evista; antiandrogen cancer drugs (Casodex, Eulexin, Nilandron). 11) heavy coffee drinkers. 12) Antidepressants-SSRIs-Celebra, Prozac, Paxil, Zoloft, Cymbalta. 13) Gastric reflux medications-PPIs-Nexium, Prevacid, Zegerid, H-2 inhibitors-Tagamet, Mylanta AR {more friendly reflux meds—Pepcid, Tritec, Zantac}. 13) Anti-diabetic drugs – only Actos, Avandia.

Hip fractures are common from osteoporosis especially with a fall or other forms of trauma. Spine fractures can also be caused by osteoporosis.



If a woman or older man has a **fracture**, this issue must be thought of. Patients that have certain diseases of the gut, do not eat much fat (Vitamin D is one of the fat-soluble vitamins-A, D, E, and K—fat must be in the stomach to absorb these vitamins), are bulimic, have

kidney disease, do not eat a balanced diet, are at risk for osteoporosis.

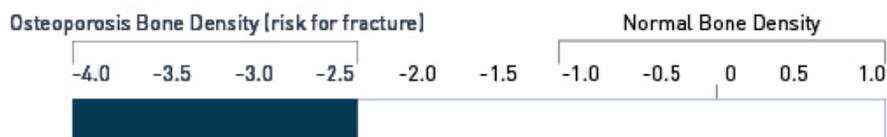


The **DEXA scan(dual-energy X-ray absorptiometry-one-tenth of a chest X-ray dose) usually of the hip will determine the bone density. It can determine bone thinning before actual osteoporosis. The scan is scored as a T-score. You can see from below what the scores mean.**

Why it's important to know your T-score.

A bone density scan gives you a T-score that helps determine whether you're at risk for fractures. A T-score compares your bone density to the bone density of a healthy, young adult woman. A T-score of -2.5 or lower is defined as osteoporosis.

The lower the score, the greater your fracture risk can be.



Do you know your T-score?

A score of -2.5 justifies a diagnosis of **osteoporosis and -1.0-2.4 **osteopenia**. If a woman is past menopause or a man is less than 50 years of age, treatment is not usually recommended unless -1.5 or less (see below).**

The bone density refers to the thickness of bone. Bone mass refers to how much bone you have (peaks at 30 years of age).

If a person is found to have an abnormal scan, the discussion with the primary care physician will be necessary. Of course, a good workup for the disease is indicated. Once treatment is instituted, the scan needs to be repeated 1-2 years to assess the status of the bone, and every 2 years thereafter, according to the National Osteoporosis Foundation, a good reference:www.nof.org/learn

Bone Scan T-Scores: When It's Time to Treat

The National Osteoporosis Foundation recommends treatment for:

- Postmenopausal women with T-scores less than -2.0, regardless of risk factors.
- Postmenopausal women with T-scores less than -1.5, with osteoporosis risk factors present.

Treatment usually starts calcium and Vitamin D with a bisphosphonate.

1. Bisphosphonates (Actonel, Fosamax, Boniva, or Reclast)

2. Hormones-estrogen, calcitonin, Teriparatide-parathormone-(Forteo).

3. Newer medications

(Evista)raloxiphene (anti-estrogen medication) is used to treat osteoporosis in postmenopausal women.

You may have heard of Evista, which is used after breast cancer treatment to prevent recurrence. Because of the

positive bone effects, it has been added to the list of osteoporosis causing meds.

(Prolia)denosumab (monoclonal antibody). This class of drugs is actively being used to target cancer cells in several cancers from melanoma to kidney cancer and clinical trials in prostate and others. This drug also slows the loss of calcium in bone and is approved to use in osteoporosis in post-menopausal women. It also indicated to prevent osteoporosis in men under treatment for prostate cancer, who are at high risk for fracture.

Options for treatment-- with a daily oral medication vs. either an IV drug every 3 months or yearly. The expense and insurance coverage are certainly factors that should be researched carefully before a decision is made. Monitoring the DEXA scan and blood tests will be necessary to assure positive results.

Each of these drugs have websites, but always remember when reading information from the pharmaceutical company, that they are trying to sell you on their product.

In addition to the above, **1200 mg/day of calcium and vitamin D (women-age 19-70—600IU/day; women and men at 70—800IU/day is recommended.IU=international units.**

Biphosphonates are considered anti-resorptives, by preventing or slowing bone releasing calcium into the blood. It is recommended in some cases of osteopenia and osteoporosis. It is by far the most common drug used. But it does rely on the body's bone and the calcium available, whereas hormonal treatment can build new bone. Some are taken by mouth on an empty stomach 30 minutes

before breakfast (**Actonel** and **Fosamax**). However, **Boniva** is given IV every 3 months and **Reclast** is given IV once a year. These drugs are not recommended if the patient has severe kidney disease. Taken by mouth often can cause esophageal and stomach irritation.

It will be up to your doctor which of these drugs would be best for you. Side effects should be discussed. Rarely, necrosis of the jaw bone can occur, so close dental prophylaxis is important.

Remember exercise, keeping the supporting structures of bones strong, eating a diet rich in vegetables, fruits, some low fat dairy, and stretching (yoga, etc.) will give you the best chance of strong bones. Drugs, approved uses, risks, and side effects:

Medication	Approved uses, benefits*	Risks, side effects	Comments
<i>Antiresorptive agents (slow bone remodeling, increase bone density)</i>			
Bisphosphonates+ . alendronate (Fosamax) . risedronate (Actonel) . ibandronate (Boniva)	Prevention and treatment. Alendronate and risedronate reduce the risk of vertebral, hip, and wrist fractures by 40%-50%. Ibandronate reduces vertebral fractures, possibly by as much as 50%.	Well tolerated when taken properly, but may cause nausea, heartburn, or esophageal or stomach irritation. Alendronate and risedronate are available in a once-weekly dosage, which may help reduce side effects.	Bisphosphonates interfere with cells that break down bone (osteoclasts). Taken first thing in the morning with a full glass of water at least 30 minutes before eating anything. Ibandronate will not be available until a once-monthly formulation is approved.
Selective estrogen receptor modulators (SERMs) . raloxifene (Evista)	Prevention and treatment. Reduces vertebral fractures by 40%-50%.	Possible side effects include hot flashes, leg cramps, and blood clots.	Increases bone density, but not at the same rate as bisphosphonates. May reduce breast cancer risk. Lowers LDL (bad) cholesterol.

Anabolic agent (builds new bone)

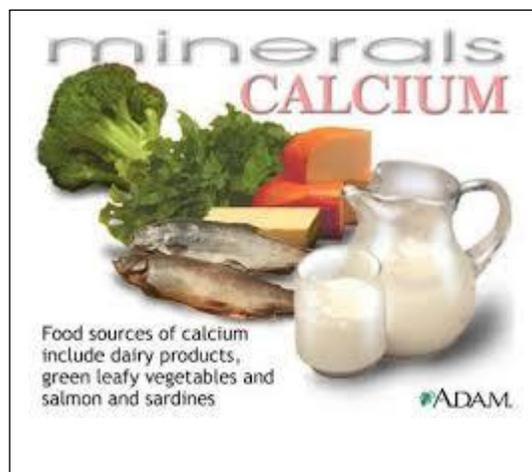
Parathyroid hormone (PTH) teriparatide (Forteo)	Treatment only. May double the rate of bone formation. Reduces vertebral fractures by 65%-70% and cuts the risk of nonvertebral fractures by about 50%.	Although PTH-treated rats developed a form of bone cancer, there is no evidence of this risk in humans.	Must be taken as an injection. Because effects appear to wane and long-term safety data are lacking, PTH should not be prescribed for more than about two years. Treatment costs about \$7,000 per year.
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* Fracture data is derived from individual studies, not from head-to-head trials of osteoporosis drugs.

** In women without osteoporosis participating in the Women's Health Initiative trials of Premarin (estrogen only) and Prempro (combined estrogen and progestin).

+ Etidronate (Didronel), pamidronate (Aredia), and zoledronic acid (Zometa) are bisphosphonates that are FDA-approved for treating bone problems related to cancer or Paget's disease. They may be used off-label to treat osteoporosis. Pamidronate and zoledronic acid are given intravenously.

Foods to avoid are those with high phosphorus content (excessive red meat, soft drinks, coffee, alcohol, and additives in foods). Most females take in only about one-third to half of the calcium they need. Foods are the way to supplement if at all possible, because taking calcium tablets can increase the risk of kidney stones and cardiovascular disease by depositing calcium in the lining of vessels. Recommendations-Vitamin D3- 800-1000mg daily. If a woman does not replace estrogen after menopause, bones will thin. It is up to you and your doctor to make the decision to take hormone replacement.



www.aof.org

The American Osteoporosis Foundation

www.webmd.com/vitamins/ingredients (Vitamin D and calcium).

3. PTSD—Part 1--not just a soldier's disease— setting the stage/GI side-effects of antidepressants

I have discussed depression before in previous reports (www.themedicalnewsreport.com/8)

Please refer to that report so that I don't need to repeat myself. After studying PTSD for over 2 years, I have decided to report on this most important disorder. The first item of importance is to remind everyone **this is not a soldier's disease exclusively**. Whether the military calls it "shell shock" as they did in previous wars or post-traumatic disorder as they do now, this disorder has affected most people who have gone through a stressful period or traumatic episode in their life. How it is manifested, varies, but it is real and has potentially lethal consequences if not treated.

Doctors like to label diseases and disorders because it gives them a way to communicate with patients, other healthcare professionals, and honestly be able to bill the insurance companies. But, with a specific psychological diagnosis, there can be discrimination, shame, embarrassment, and denial. That is just terrible but a fact. Symptoms of PTSD, depression, bipolar disorder, etc. are much more important than the label. No one chooses to have a problem, but the quality of their lives and their family and friends suffer tremendously. There are patients with this diagnosis that are committing suicide every day. Seeking consultation for any of the following symptoms is

recommended: Following a traumatic event including war, death of a mate, child, or close relative, severe stress from an accident, cancer, other serious acute diseases, loss of employment, financial loss, etc. all can cause some of these symptoms or signs:

Uncontrolled temper issues, feeling down, not interested in work or play, isolation, have a drinking or drug abuse problem, panic attacks, phobias, excessive nervousness, trouble sleeping, angry, mean, spiteful, or have suicidal thoughts, etc. Recalling the stress event(s), excessive grieving over loss of family and friends, nightmares for events, etc.

This country looks down on people that can't handle their own problems. Even alcohol and drug addiction is still not accepted as medical diseases by all. We aren't tough enough, we are a wimp, or we are inadequate. We must stop with these stigmas!! These people need help, and as a friend or family member, consider gently suggesting a consultation with their primary care doctor. If it comes to it, consider discussing an **intervention. No one needs to be told they need a "shrink", but sometimes it is the last resort. The treatment available for all these symptoms is there for the asking.**

Some family doctors are not comfortable with bringing up psychological issues, but it needs to be part of any discussion with your doctor. Don't be afraid to ask for a referral. A recent study also found ministers are not comfortable discussing mental illness with their congregation, even though their congregation wanted the subject discussed in church. Most patients will not bring up these problems unless a concerned relative or

frienddoes. With the stress of this world, it is no wonder most of us need help.

Psychiatrists, because of the lack of reimbursement, have increasingly chosen to not accept Medicaid, Medicare, and most private insurance. This has complicated the issue greatly. Our healthcare system has let us down as far as psychological problems. Reimbursement needs to be increased greatly.

Next month, I will discuss PTSD as it pertains to our military heroes in Part 2.

www.nimh.nih.gov/health/topics/post-traumatic-stress-disorder The National Institutes of Health-National Institute of Mental Health

4. Antidepressants and gastrointestinal side effects

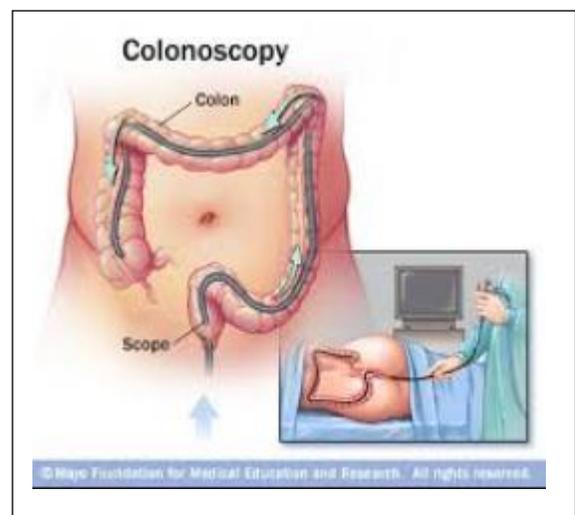
SSRIs (Cymbalta, Lexapro, Paxil, Pristiq, etc.) are the main group of antidepressants used today. By blocking the breakdown of serotonin, an important neurotransmitter in the brain, these meds can relieve depression in many patients. Millions of Americans are taking these meds and millions also have gastro-esophageal reflux and other gastrointestinal issues.

A study in the New England Journal of Medicine (NEJM) reported that these SSRIs increase the likelihood of bleeding by 50% from the stomach and other sensitive and predisposed areas of the gut. The study also proved, with over a million people studied, that taking a systemic anti-acid medications block this side effect. These meds are H-2 inhibitors or PPIs (Nexium, Pepcid, Prevacid, Dexilant,

etc.). If you are not on one of these meds and are taking SSRIs, you should discuss daily use of these medications (OTC or prescription) with your doctor. If you want to read more on these 2 subjects (antidepressants and gastric reflux, I refer you back to www.themedicalnewsreport.com/report/7,8



5. Bowel preps for Colonoscopy

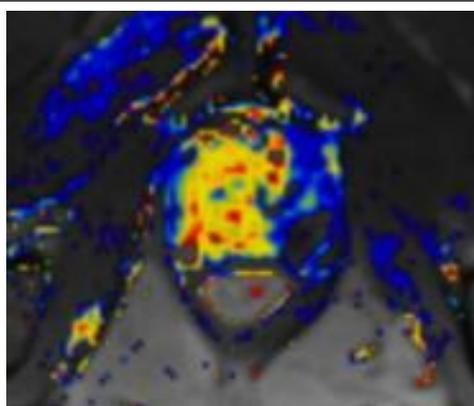


Bowel preps are no fun, but a very necessary part of cleansing your colon before endoscopy especially small bowel endoscopy and colonoscopy. A new study compared bowel preps the night before only and half the night before and the other half before the procedure. Split dose prepping was superior, but the part given the day of the procedure must be approximately 3 hours before. After 4-5 hours, the split prep was no better than the night before. The colon especially must be completely clean for the gastroenterologists to see subtle signs of bowel wall disease. Talk to your doctor about this. I will be discussing the colon soon. Reference: NEJM Watch online

6. Prostate Cancer—Part 4—Medical Therapy for advanced and metastatic disease.



Exten



(in yellow)

Introduction

I have spent a great deal of time on prostate cancer, because it is the most common cancer in men and the #2 cancer killer of men. The death rates are only because men delay diagnosis and treatment. The best news is that if this cancer is detected early, the cure rates are well over 90% no matter what treatment a person chooses. Most of these cancers are detected in a local stage, but the Gleason score, PSA level, and # of positive biopsies determine how curable the cancer is.

However, it is known that 50% of patients with localized very treatable disease will recur usually in the first 8 years. Therefore, close follow up is very important.

Another issue must be discussed. When a doctor tells a patient that their cancer is low risk, what does that mean? There is an excellent booklet put out by Johns Hopkins on prostate disorders that has a great discussion on prostate cancer. It can be purchased for \$20 from:

www.johnshopkinshealthalerts.com/bookstore

For purposes of this discussion, there are many tests that can be performed on the biopsy, blood, and urine samples to determine whether a cancer is low risk, intermediate, or high. This includes special proteins in the urine, genetic marker testing, looking for damaged DNA in the cancer cells, how rapidly the cells are dividing, and testing the cancer cells for 17 genes and how they interact with each other. Some of these tests are investigational.

In the end, a man and his doctor will choose to carefully watch a cancer, definitely not have treatment, have surgery, radiation (multiple options), with or without

hormonal therapy, and other medical adjuvant therapies. This will be based on age, general health status, cancer risk category, and personal preferences. If you read the Hopkins bulletin, it is stated that about 80% need definitive treatment and the other could have a non-treatment option.

Non-treatment options with newly diagnosed patients

The NCCN (National Comprehensive Cancer Network) recommends **2 non-treatment options** in very specific cases. Today, this includes 8-12% of cases, however, the latest thinking, it should be closer to 40%. This implies **over-treatment**, which is being discussed heavily these days in the face of Obamacare and healthcare reform. It is a controversial subject for sure, but does have merit. Considering the side effects of the treatment (regardless of type of therapy) especially bladder, bowel, and impotence issues, there are clearly many men who would be much better off with one of these 2 non-treatment options: **active surveillance and watchful waiting**:

Active surveillance is defined by monitoring the PSA levels every 3 months and repeat prostate biopsies 12-24 months. This is a very good choice if there is a **low risk** of progression of disease, **T-1 or 2a** stage, a **Gleason score of 2-6**, and a **PSA of less than 10ng/mg**. If there are clinically significant rises in the PSA, initiation of therapy may be recommended (theoretically the PSA should be zero). Repeat biopsies are recommended every 12-24 months with DRE (digital rectal exam) every 12-24 months.

It has been emphasized that to adequately assess the risk category of a prostate cancer, there needs to be 12-14 separate core biopsies of the entire prostate gland.

Active surveillance would not probably be indicated for patients 75 or older or if life expectancy is less than 10 years.

The NCCN also endorsed a “very low risk” patient, who has a T1a stage (the least amount of cancer by stage), is 57 years of age with a life expectancy of 20 years.

The key to active surveillance is catching a cancer before it progresses (if it does) and having radiation or surgery. A study is ongoing comparing surveillance with treatment.

The other option is Watchful waiting is defined as a patient with other life limiting disease or less than a life expectancy of 10 years. These patients are usually older and in poorer medical condition. Quality of life is the important issue, and treatment could create more trouble than not being treated.

A study in 2009 cited that the 10 year survival rate with watchful waiting was 94% with an average age of 78 at the time of diagnosis.

With advanced local or metastatic disease, watchful waiting is still an option. Advanced disease, however, may require surgery or radiation (plus hormonal therapy).

Failures of primary treatment regardless of method will occur either because of undetectable micro-metastatic disease or failure of the primary treatment. But, it is important to remember that regardless of the treatment type, the survival and death rates are the same!!

If the prostate cancer is **androgen sensitive** (the tumor cells will grow in the presence of male hormone), which most are, the chances of preventing recurrence is increased by taking hormones and anti-androgen meds for an extended period of time after the primary treatment has been completed. This is true for advanced and metastatic disease as well.

If there is an **aggressive more advanced cancer**, certain cancer drugs may be recommended. Black men are more likely to have more aggressive tumors, and therefore should consider more aggressive therapy.

Options for treatment:

1. Active Surveillance

2. Watchful Waiting

3. Surgery—radical (open, laparoscopic, robotic, with or without nerve sparing depending on the extent of cancer)

4. Radiation therapy-external beam (standard, 3D, IMRT, brachytherapy, proton)

5. Hormonal Therapy---Male sex hormone (androgens), especially testosterone, is required to maintain the size and function of the prostate. Intermediate and high risk cancers are best treated with the addition of drugs that interfere with androgens, by blocking receptors that testosterone attach to. Hormonal therapy used to be reserved for metastatic disease, but more recently it is given to those patients who have a significant risk of their cancer spreading. For metastatic disease, the goal is to prolong life and relieve symptoms such as bone pain or urinary problems.

6. immunotherapy-vaccine

Survival data for metastatic disease—75% live less than 5 years, 15% live 5-10, and 10% live more than 10. PSA levels help predict survival in these men. A rising PSA after hormonal therapy indicates a poorer response, and a rising PSA during hormonal treatment indicates the disease is progressing (called castration-resistant disease).

There is controversy on the timing for hormonal therapy, because these meds have significant side effects (loss of libido, breast enlargement, weight gain, loss of muscle mass, osteoporosis, fatigue, liver abnormalities, a decline of cognitive function, and hot flashes. It also increases cardiovascular risks, and type 2 diabetes).

Options for hormonal treatment

1. **Surgical castration** (removal of the testicles)-much less commonly used in the US, because the newer meds can accomplish the same thing. Still, it prevents the major expense of medications.

2. **Medical castration**-this requires understanding how the pituitary works (I refer you back to that discussion in:

www.themedicalnewsreport.com/#31

The **hypothalamus** of the brain secretes the hormone **releasing gonadotropin**/luteinizing hormone, which stimulates the **pituitary gland** to produce the **gonadotropin**/luteinizing hormone LH and FSH which stimulate the testes (Leydig cells) to secrete testosterone. FSH stimulates sperm production in the testicle. A small amount of testosterone is produced by the adrenal gland

(I will discuss in a future report). The hormonal drugs inhibit the sequence of this chain reaction.

Subtypes of anti-testosterone drugs:

A. LHRH agonists—also known as gonadotropin-releasing hormone (GnRH) agonists. These synthetic drugs actually increase the production of testosterone, but after a short period, they block the luteinizing hormone reducing testosterone. They can delay progression of cancer and prolong life.

B. LHRH antagonists (GnRH)—these target and block the luteinizing hormone receptors in the pituitary, which shuts off the production of testosterone in the testes. These are injections.

C. Anti-androgens—these occupy the receptors in the testicular cells that testosterone has to bind with. It does not block the production of testosterone. It may not be as effective as surgical or medical castration.

D. Total androgen blockade—the adrenal glands also produce some androgens, including testosterone. These medications may be added to a medical castration. The combination is called total androgen blockade. This combo does not work any better than the medical castration medications in my reading.

R. Cycling of these drugs is recommended by some oncologists to prevent resistance of the cancer cells to these medications.

7. Chemotherapy—initiated when the above drugs stop working (castration-resistant). Chemotherapy is used to

help relieve pain and other symptoms. Docetaxel (Taxotere) plus prednisone does prolong life.

8. Other types of medical treatment-Immunotherapy— sipuleucel-T (Provenge) is a **vaccine** made by using the T-cell lymphocytes of the patient to target prostatic acid phosphatase, an antigen expressed by most prostate cancers.

Metastatic disease can possibly be controlled with a variety of agents: hormones, radiation, radiation pharmaceuticals, chemo, and surgery depending on the symptoms. **Pain**, neurological conditions, etc. are the main reason for palliative treatments. Surgical decompression of spine fractures to prevent spinal cord damage is an example of surgical management. A TURP (trans-urethral prostatectomy) may be required if bladder obstructive symptoms occur from the tumor. These regimens are more about treating the symptoms rather than disease.

9. Clinical Trials and the latest research

Clinical trials are ongoing, testing new drugs (targeted immunotherapy); (**Prolia**) denosumab, a monoclonal antibody, is showing a good response to prevent metastatic disease and/or prevent fractures in bone metastases. I wish there was as much research being performed on other cancers, but the more common cancers get all the funding.

In 2011, the FDA approved Abiraterone (**Zytiga**), a oral medication indicated for failure of treatment in castration-resistant cancer, as it delayed progression of cancer by 16.5 months. The FDA approved in 2013 the radioactive isotope that goes directly to the bone via the blood

stream, **Xofigo** (radium Ra223), which shows control with bone metastases, living 3 more months. This may seem a small amount of time, unless you are in that situation. Enzalutamide (**Xtandi**), another medication was approved in 2012, that blocks testosterone receptors, and has become the strongest inhibitor of testosterone.

If the prostate cancer is more advanced or metastatic, there is still a good chance that the progression can be controlled, so it is no time to give up. Making cancer more of a chronic disease is now a reality.

There are good options for these tumors. Chemotherapy is considered a last resort after hormonal and androgen deprivation therapy fails.

The medical treatment of prostate disease is very complicated. There are 2 groups of drugs that interfere (one way or the other) with testosterone production in the prostate, adrenal gland, and testes. Stopping growth of these tumors, whether local, advanced, or metastatic, prolongs survival. Chemo is used if these meds begin to fail, and chemo may be added to the hormonal therapies.



Below are medications approved in the US:

Drugs Approved to Treat Prostate Cancer In The United States

Hormone Therapy

Gonadotropin-releasing hormone (GnRH) agonists:

Zoladex[®] (goserelin acetate)

Lupron[®] (leuprolide acetate)

Eligard[®] (leuprolide acetate)

Viadur[®] (leuprolide acetate implant)

Antiandrogens:

Casodex[®] (bicalutamide)

Eulexin[®] (flutamide)

Chemotherapy:

Taxotere[®] (docetaxel)

Novantrone[®] (mitoxantrone)

Bisphosphonates:

Zometa[®] (zoledronic acid)

Radiopharmaceuticals:

Metastron[®] (strontium-89)

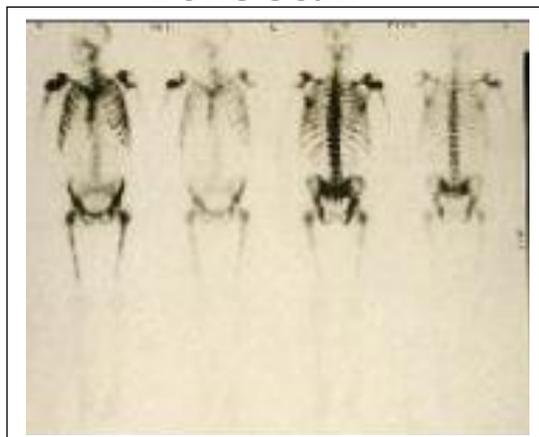
Quadramet[®] (samarium-153)

Here are examples of metastatic disease in the lymph nodes in the first photo (see arrows) and a bone scan showing mets in the second photo. The third photo (next page) shows compression of a vertebra from mets.

MRI Scan



Bone scan



The darker areas are cancer!



I want to advise you to pick your doctors wisely, because the options are so numerous, you will not be able to comprehend all that is said to you, opinions from friends, or the internet.

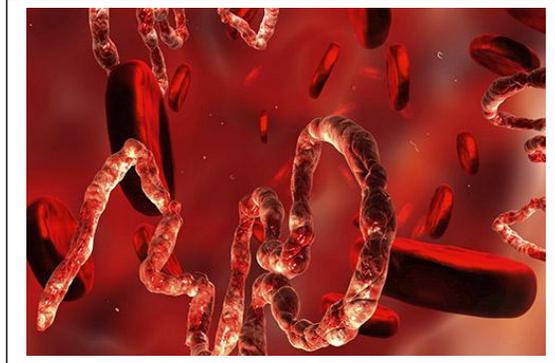
So many factors are in play, and it will be necessary for you to trust your doctors to choose the right therapy for you. There are not many cancers in the body that have so many options, and research is ongoing at a feverish pace. I hope I have given enough information for what goes into diagnosing and treating prostate cancer. There are very good references from the American Cancer Society and the National Cancer Institute.

www.cancer.org/prostatecancer

www.cancer.gov/prostatecancer/learn

www.johnhopkins/healthtopics.com/alerts_index/prostate

7. An update on Ebola



Even though the media has dropped the constant chatter on the Ebola crisis, I wanted to update you on where the disease is today.

Before 2014, only 2200 cases of Ebola were reported by the WHO. Since this April, a disease that started with an outbreak in Guinea (127 cases/83 deaths) became one of the biggest public health stories in a decade. While we were concerned about influenza, the swine flu, outbreaks of whooping cough, measles, and mumps, West Africa was silently seeing hundreds of cases and many deaths earlier this year. The West African village's religious tribal practices with the death and dying, and the paranoia for outsiders helping them, enhanced the epidemic before they called for help.

Once it spread to 3 countries (165,000 square miles) and started to spread because of traditional Islamic burials (washing and touching the dead before burial), the CDC was called in. As hundreds of cases and deaths turned into thousands, these countries, who had told the WHO (World Health Organization) initially that they had the infection

under control, screamed for help. Politics created trouble there and here. Preventing panic and saving face were alive and well.

The US responded with mobilization of resources, volunteer doctors and nurses. However because of poor infectious practices and lack of resources, hundreds of local healthcare workers have died or contracted the disease. As countries such as the US, France, Switzerland, etc. began to supply necessary protective garments, etc., they had not been able to convince the village people to quit touching dead bodies. It took some serious convincing by the governments to get compliance. Borders were closed, and eventually the cases started to level off thanks to the volunteer help. **As of this Jan.1, over 20,000 cases and 7300 deaths have been reported. The 3 country's healthcare system has been decimated. Other diseases are not being treated because of the loss of hospitals, hospital and healthcare workers and no money. Hospitals are closed and the everyday medical needs are being turned away (high risk deliveries, malaria, etc.) Ebola is just the tip of the iceberg in how one disease can destroy a country(s) healthcare system.**

The **collateral damage of Ebola is a nasty lesson for us all. We also have learned that we as a nation have to reach out to the less fortunate ones if for no other reason than to protect our own country. Because of globalization today, we must face the reality of quick spread of infectious diseases from any point on the planet.**

Infection control techniques were not adequate and residents were allowed to travel back to the US. Mr. Duncan and the Dallas hospital debacle occurred. 2 nurses

were infected, and a New York doctor. After a good scare, our country was declared Ebola free on December 21.

It was a great lesson for hospitals, the CDC, and healthcare in general to update an outdated system that had never been tested like this before. To calm the panic created by the media, officials at the CDC overstated how well the system was working, and it took a few cases here in the US to wake them up. Quarantines were started for healthcare volunteers returning, updating protective gear, and close monitoring for those traveling from that part of West Africa were instituted by 5 major airports (and continue today), and Ebola has settled down here in the US.

It was pointed out by officials that no one was infectious unless they had a fever. Then scientists came forward and announced that 10% of patients with the virus in their blood did not start with a fever, but that they were technically infectious. Taking temps at the airport was good but not foolproof.

Over the years, the CDC has had several breaches in-house with CDC workers being exposed to deadly viruses, and this week, a live Ebola virus at the CDC was supposed to be killed before being transported to another lab. Since it wasn't, now those workers are in quarantine because of the potential exposure to the live virus.

Treatments and a vaccine are still experimental and not widely available yet. A rapid bedside diagnostic blood test for Ebola is in the works. The CDC announced that it will take several more months to end this epidemic in West Africa.

The bad news of Ebola is painfully obvious. The good news is that there was an acknowledgment that the public health infection control system is behind the times, and is now currently being updated in hospital emergency departments, etc. After the CDC's budget was cut 20% 3 years ago, it is clear the Congress must increase it. Most hospitals have only 1 or 2 beds for such dangerously infected patients. Only certain designated facilities need such an entity in major cities.

The cost of this crisis for hospitals and tax payers has been enormous and has not yet been reported. President Obama is now asking for \$6 Billion dollars as an emergency Ebola fund for the future. I imagine the amount already spent is well over that figure. Getting healthcare costs under control is quite a challenge with crises like Ebola.

Politics got in the way and the media was awful in spreading panic. Dr. Tom Frieden, the head of the CDC said it from the beginning...."we are learning new things as we go". The whole issue was not meant to be handled by anyone other than the infectious disease experts. It did give you a picture of how fast our country would be in the panic mode. What if our water system was contaminated, our internet system shut down, or Ebola was an airborne disease? Panic!

What have we learned?

- 1. Prevention is better than over-reaction.**
- 2. The global healthcare community has a way to go. Understanding their village traditions is mandatory as outsiders try to help.**

3. A workable public health infrastructure needs to be put in place for future outbreaks.

4. Wealthy countries must help.

5." Surveillance capacity in the developing world is necessary to catch these outbreaks early". (Dr. Tom Frieden, the Director of the CDC, stated after returning from West Africa)

6. Ebola is leveling off, but will still take months to see no more cases. With archaic practices in ancient cultures, buy-in from their leaders is necessary.

7. The toll to our public health service (taxes) and hospitals is enormous.

8. The US will not be safe until there are zero cases.

9. Dr. Frieden stated the final phase of this epidemic requires:

a. Breaking the cycle of exponential growth of viruses.

b. Tracing all the transmission chains is necessary and an enormous effort.

c. Strengthening the areas in West Africa that are already Ebola free is necessary to prevent new cases.

The issue of terrorism or infectious disease challenge our borders, and Ebola has shown we are living with everyday threats. We better get our collective act together in this country to hopefully prevent another crisis.

References come from Medpage internet services and my opinion.

This completes another report for you. I hope you had a good beginning to 2015. Let us all pray for peace in this world, racial tensions decreased, better choices in our lives, and God bless our military and police officers everywhere.

Stay healthy and well, my friends, Dr. Sam

ENJOY THE WINTER, VACATIONS, FAMILY, AND FRIENDS!

