My Experience Since 1996 With Androgen Deprivation Side Effects

by Charles (Chuck) Maack – Prostate Cancer Advocate/Activist

DISCLAIMER: Please recognize that I am not a Medical Doctor. I have been an avid student researching and studying prostate cancer as a survivor and continuing patient since 1992. I have dedicated my retirement years to continued research and study in order to serve as an advocate for prostate cancer awareness, and, from a activist patient's viewpoint, to voluntarily help patients, caregivers, and others interested develop an understanding of prostate cancer, its treatment options, and the treatment of the side effects that often accompany treatment. There is absolutely no charge for my mentoring – I provide this free service as one who has been there and hoping to make your journey one with better understanding and knowledge than was available to me when I was diagnosed so many years ago. Readers of this paper must understand that the comments or recommendations I make are not intended to be the procedure to blindly follow; rather, they are to be reviewed as my opinion, then used for further personal research, study, and subsequent discussion with the medical professional/physician providing your prostate cancer care.

This paper was originally written to explain MY experience over many years of androgen deprivation therapy, and I will report that further down in this paper. But I think it very important that patients be aware of many considerations not brought up by their physician but certainly important to their well being if experiencing any of the ailments or potential ailments identified.

An important first understanding when androgen deprivation therapy (ADT) is to be prescribed are the side effects that might occur, including the possible effects of anemia and/or stroke. Patients who have not had cardiovascular testing should do so prior to embarking on ADT. Here is an important paper regarding anemia that all such patients review and discuss with their physician before embarking on ADT:

Anemia Associated With Androgen Deprivation (AAAD)

by S. B. Strum, J. E. McDermed, M. C. Scholz, H. Johnson and G. Tisman
This article originally appeared as a booklet, last edited May, 1999.

An Overview And Description Of This Adverse Effect Commonly Seen In Prostate Cancer Patients Receiving Combination Hormone Blockade

ABSTRACT

Objectives
To describe the incidence, time to onset and extent of anemia occurring in patients with prostate cancer receiving combined hormone blockade (CHB) and the timing and extent of recovery from anemia in those patients who discontinued CHB.

Patients And Methods
Patients with prostate cancer were evaluated prospectively by physical examination and laboratory tests at baseline and at routine intervals while receiving CHB. Of 142 patients, 133 were assessable for their anemia. CHB was discontinued in 76 patients, of whom 64 were assessable for recovery from their anemia.

Results
Hemoglobin levels declined significantly in all patients from a mean baseline of 149 g/L to means of 139 g/L, 132 g/L and 131 g/L at 1, 2 and 3 months, respectively. Hemoglobins continued to decline during CHB to a mean nadir of 123 g/L at a mean of 5.6 months of CHB, representing a mean absolute hemoglobin decline at nadir of 25.4 g/L. In 120 of the 133 (90%) patients, the relative decline in hemoglobin at nadir was 10% or greater and was 25% or greater in 17 (13%) others, representing a mean absolute hemoglobin decline in this subset of 42.7 g/L. Significant symptoms related to anemia occurred in 17 patients (13%). Anemia and symptoms in these patients were easily corrected with the subcutaneous administration of recombinant human erythropoietin.

Conclusions
The anemia associated with androgen deprivation is significant and occurs routinely in men receiving CHB. It is normochromic, normocytic, temporally related to the initiation of androgen blockade and usually resolves after CHB is discontinued. We suggest that patients receiving CHB undergo hematological testing at baseline, 1-2 months after initiating CHB and periodically thereafter. Patients developing anemia should be questioned about symptoms reflecting physiologic compromise (e.g., angina, dyspnea

on exertion). In the absence of other causative factors, CHB should be suspected in the development of anemia in patients receiving this treatment.

Review the full paper here:

http://www.prostate-cancer.org/pcricms/node/228

Regarding LHRH/GnRH agonists/antagonists effect on patients with heart and/or diabetic issues as well as those susceptible to stroke because of the lowering of testosterone (T):

My opinion (for what it is worth) is that with the FDA now requiring labeling on the package material of LHRH/GnRH agonists/antagonists regarding the effect of low testosterone on patients with heart and/or diabetic issues as well as those susceptible to stroke, the physician has now been alerted and now has a responsibility to thoroughly check and determine other health issues his/her patient may be experiencing, and not just prescribe LHRH/GnRH agonists, antagonists, or for that matter, Transdermal Estradiol patches or gels, without doing so. The physician additionally has the responsibility to discuss what these drugs and the lowering of testosterone might - not necessarily will - have on that patient with heart, diabetes, and possible stroke health issues. Since the patient is unlikely to have access to view the containers in which these drugs are provided the physician in order to be able to read these warnings, the onus becomes even more so on the physician. In effect, this makes the physician the responsible party if that physician has not first run appropriate tests to rule out heart issues, diabetes, or patients with issues that could lead to a stroke. On the other hand, if the physician has performed due diligence, I would doubt a case could be made against that physician for malpractice. However, you, as the patient, also have an obligation to inform your physician of any other ailments you may be experiencing. It is very important that when administered medications such as LHRH agonists or antagonist that the patient's testosterone level be regularly checked since this level will likely drop near or below 20ng/dl, and with that low a level, hypogonadism occurs. With hypogonadism it then becomes very important that one's physician – more often early on a Urologist – schedules regular checks of the patient's testosterone level as well as blood pressure, blood sugar, and insulin levels. The patient should be checked for hypertension and general metabolic syndrome effects. Low testosterone will also have an effect on bone mineral density and important to be imaged with either Quantitative Computerized Tomography (QCT) or

Dual-Energy X-ray Absorptiometry (DEXA) to determine if osteopenia or osteoporosis is developing. Bone resorption can also be checked with a Pyrilinks-D Dpd deoxypyridinolene urine test. . More likely the patient should be prescribed a bisphosphonate, for example at least Fosamax, or possibly better Zometa, since Zometa has been found to also play a role in PC cell apoptosis as well as support bone health. Alternatively, the monoclonal antibody denosumab as Xgeva, a subcutaneous injection, has become the preference of many physicians in lieu of Zometa. In any case, if this becomes the case, before beginning either medication be sure to read information in this paper **http://tinyurl.com/6ygr3e.** Too often the patient is prescribed testosterone lowering medications then pretty much ignored in recognizing the foregoing events that can occur. This therefore behooves you, the patient, to make sure your physician is taking appropriate action to monitor the foregoing diagnostic checks.

Back to the patient who has any of these health issues that could be affected by the lowering of testosterone by these drugs: If another physician is treating the patient for any of these issues, it behooves the now treating Urologist, Radiation Oncologist, or Medical Oncologist, who is anticipating prescribing these drugs to, in addition to discussing with the patient, also making personal contact with that other physician or physicians as co-partners to determine the degree of likelihood that the drugs will be dangerous to the patient, or to work together with close attention to the patient with appropriate diagnostic monitoring to pull the drug if having an adverse effect.

The unfortunate concern is that the patient who has failed the usual RP, RLRP, RT, or Cryotherapy now becomes "between a rock and a hard place" to decide with his physician(s) alternatives to rein in his recurring disease. Since current methods all appear to have an effect on heart issues and diabetes, it becomes imperative for the drug to be administered in likely only monthly dosages, with very special close attention and monitoring to recognize early on any adverse effect on the other health issue(s) so that the drug can be withdrawn.

Since the known androgen/hormonal deprivation drugs to shut down testosterone can have an adverse effect on these patients with other health issues, I expect they will continue to be administered, but now in lower dosage/shorter time-frame with much closer attention to patient monitoring and diagnostic results.

I recognize that sequential androgen blockade (SAB) without an LHRH/GnRH agonist/antagonist but with an antiandrogen can be prescribed. This option intends to block testosterone from activating androgen receptors wherein that testosterone would otherwise have access to the cancer cell nucleus and contact with 5Alpha Reductase enzymes where it can be converted to as much as a five times more powerful stimulant to prostate cancer cell growth, dihydrotestosterone (DHT). Should this option be employed, rather than the antiandrogen as monotherapy, it is my opinion that a 5AR inhibitor (5ARI) of either dutasteride/Avodart (preferred) or finasteride/Proscar should be prescribed to accompany the antiandrogen in order to prevent T conversion to DHT should any testosterone gain access via faulty androgen receptors. Medical Oncologist Strum commented: And also because the 5ARIs dR (down regulate) oncogenes like prostate-specific and androgen-regulated transmembrane-serine protease gene (TMPRSS2) and TFF3 (trefoil factor 3).

It has been my observation over several years of monitoring prostate cancer support lists that SAB has a short lived effectiveness of only a year or two before androgen receptor mutation and antiandrogen failure.

Side effects from dutasteride/Avodart:
http://www.dutasteride.com/dutasteride-side-effects.html
Use caution in prescribing dutasteride/Avodart or finasteride/Proscar to patients with liver disease. The effect of hepatic impairment on dutasteride pharmacokinetics has not been studied. Because dutasteride is extensively metabolized and has a half-life of 3 to 5 weeks, caution should be used in the administration of dutasteride to patients with liver disease. Since finasteride is also extensively metabolized in the liver, the same caution applies.
http://www.gsk.ca/english/docs-pdf/Avodart_PM_20081223_EN.pdf

Side effects from finasteride:
http://www.drugs.com/pro/finasteride.html

AND NOW MY PERSONAL EXPERIENCES WITH ADT AND SUGGESTED REMEDIES:

HOT FLASHES/FLUSHES....I experienced them for a while but at the time it seemed to just a warming coming on like when one works up a light sweat, and never that discomforting...just something I could notice. They eventually just stopped occurring.
I read a remark provided by a PC patient: "I don't have hot flashes, I have short, private vacations in the Tropics!" (Humor is important in the healing process!)

I'll provide the best recommendation first, then you can read other suggestions, but this recommendation by top Medical Oncologist Stephen Strum, a specialist specifically in the treatment of recurring as well as advanced, high grade prostate cancer, should be the one to follow: ""I am not a user of Megace in this setting since it is metabolized to DHEA and then to androstenedione and then to testosterone. When the PSA is in good control and the testosterone is low, I use Depo Provera intramuscular injection 400mg ONCE and that **usually** eliminates hot flashes forever." The emphasis on "usually" added since there are rare cases wherein the hot flashes are not reduced/eliminated.

Therefore, a 400mg Depo Provera intramuscular injection just once would be what I would have done were I experiencing hot flashes. Make sure the prescribing/administering physician is providing Depo Provera and at the recommended dose, and not Provera. Though both are Medroxyprogesterone, the difference is that Depo Provera is an addition of acetate. There are physicians not familiar with that difference who prescribe Provera when the requirement is, specifically, Depo Provera. **HOWEVER, IMPORTANT TO NOTE:** Depo Provera has also been known to cause gastrointestinal bleeding – and a low hct percentage can also be attributed to loss of blood. If you are experiencing fatigue and shortness of breath subsequent to Depo Provera, you may be experiencing a blood loss with this GI bleeding and don't know it. Be sure your physician keeps an eye on red blood counts (RBC) as well as hgb and hct levels. With the administration of Depo Provera patients should follow-on having their Prolactin level checked to see if elevated (if earlier controlled), or in any event, to make sure that level is kept below 5ng/ml as explained in this paper http://tinyurl.com/7w5omeo. The introducing of any new medications can temporarily cause a Prolactin rise, but once the medication is stopped, within a few days that elevation should return to normal.

Men on ADT often ask "What is causing these hot flashes?" Some attribute the cause simply to loss of testosterone. I believe it is more complex than just this loss. Consider that when men have surgical castration/orchiectomy and can no longer produce testicular testosterone, though they may experience hot flashes, they are found to be much more subdued than those experienced by men when chemical castration is prescribed. As noted in one paper regarding LHRH agonists, "Hot flashes, similar to those which occur in women during menopause, are common and can often be more pronounced than those observed in patients who are treated by surgical orchiectomy."

This paper **http://tinyurl.com/ylfpvos**
reports "Hot flashes are thought to result from an alteration in the feedback mechanism to the hypothalamus due to the lack of testosterone. An increase in catecholamine secretion in response to decreased endogenous peptide secretion stimulates the nearby thermoregulatory center of the hypothalamus, resulting in the perception of increased heat." This would indicate that it is the effect from the LHRH agonist on the hypothalamus that brings about this "alteration."

Another cause can be attributed to LHRH agonist effect on lowering male estrogen levels, since low estrogen levels also bring about hot flashes. As noted in this paper **http://tinyurl.com/ykucmry** patients on transdermal estradiol (TDE) therapy did not experience hot flashes.

From: http://www.eligard.com/dr-manyak/question-and-answer.aspx

I hear hot flashes are a common side effect of hormonal prostate cancer therapy. What causes hot flashes?

It's not really understood how reducing testosterone brings on hot flashes. However, it's true that hot flashes are a common side effect of LHRH agonist therapy. Hot flashes can range from annoying to debilitating. Sometimes hot flashes are associated with facial flushing, redness, and increased sweating and may cause nausea or interruption of sleep. Hot flashes can be brought on by stress or heat, or they may occur for no apparent reason at all. Studies have shown that the majority of the hot

flashes that men experience as a side effect of ELIGARD therapy are typically mild.

Researchers analyzed patient characteristics and their DNA to determine which factors were associated with an increase in hot flashes. They discovered that men who were younger and had a lower body mass index experienced more hot flashes and felt more interference with their daily lives. The researchers also reported that the presence of certain genes involved in processes such as immune function, nerve impulse transmission, blood vessel constriction, and circadian rhythms were associated with an increased number of hot flashes.

Below is information I saved wherein various of our PC friends suggested what worked for them with hot flashes/flushes: You might want to print this out and discuss with your family physician, your urologist, or your oncologist, particularly for those requiring a prescription. On the other hand, you might just want to print it out, hang it on the wall, throw a dart at it, and give the result of the dart point a try. If that doesn't work, throw another dart. Hopefully, eventually the dart will connect with the one that will work for you. In the meantime you will be enjoying yourself so much throwing darts that you'll forget about the hot flashes/flushes!

Adding to NOT prescribing Megace is this commentary by Dr. A. Oliver Sartor: “"Megace® is used at times for patients who have hot flashes, and at times for patients to boost their appetite. But in prostate cancer, Megace may interact with the androgen receptor, particularly mutants, and cause excessive cancer growth. And you can actually get responses by withdrawing Megace. I do not prescribe the use of Megace in prostate cancer patients (even for hot flashes), because I don’t know who has a mutant and who doesn’t."

Added this recently from patient Steve Jordan regarding Depo-Provera (medroxyprogesterone): “There is a clinical study on PubMed: Langenstroer P, et al., "Parenteral medroxyprogesterone for the management of luteinizing hormone releasing hormone induced hot flashes in men with advanced prostate cancer." Go to www.pubmed.gov and search on PubMed ID 16006929 PubMed is a service of the US National Library of Medicine.

"CONCLUSIONS: This study is the first multi-institutional evaluation of hot flashes demonstrating significant reduction in quantity and severity with MPA (medroxyprogesterone acetate). Based on these data we now manage hot flashes associated with LHRH analogues with 400 mg of MPA." (PLEASE NOTE – AGAIN – "DEPO PROVERA!" (aka MPA/medroxyprogeterone acetate). Between Dr. Strum and this report, that should be enough to convince you that this would be your best bet to stop hot flashes.

Note that the recommendation is 400 mg, but I understand that Depo Provera is also available in pre-loaded 104 mg syringes, and injecting one in each anterior thigh, though only 208mg, may still do the job.

NB: This is a progesterone analog. It can increase the adrenal production of testosterone precursors, so a careful watch on PSA would likely be prudent. In fact, I would recommend caution if PSA is higher than undetectable before starting.

Anecdote Alert from a patient: "I had the 208-mg injections a few years ago and my hot flushes were totally relieved within a couple of weeks. This was the result for about half of the study cohort. Overall, over 90% had some relief." Now, that statement makes me think that perhaps the 400mg one-time intramuscular injection recommended by Dr. Strum would be more effective.

Yet another regarding 0.025 estradiol patches: Renowned Medical Oncologist Charles E "Snuffy" Myers prescribes this dosage with a Vivelle dot changed every 3 ½ days.

Soy can also serve to stop hot flashes. The importance of soy is its phytoestrogens content. So one should look for phytoestrogens content that include at least 200mg per day.

Another Email suggested the following that can be purchased at Costco (probably available elsewhere as well) and did the trick:
TruNature Soy Isoflavones 50mg
200 Softgels
Take one Softgel two times daily, preferably with a meal.
Cost $15.99
Item # 485069 plus S&H

ISoy Extract (Glycine max)(bean) 125mg (Standardized to 40% (50mg) Isoflavones)
*Daily value not established. Ingredients: Soybean Oil, Soy Bean Extract, Gelatin, Sorbitol,
Glycerin, Water, Yellow Beeswax, Lecithin Oil, Artificial Colors (Caramel, Titanium Dioxide)

The intake of soy supplements with 200mg of phytoestrogens per day, and the single estradiol Vivelle patch 0.025mg changed every 3 ½ days appears the most appropriate to consider for discussion with your physician. Dr. Myers discusses the use of these medications for hot flashes in his Prostate Forum Volume 11, number 6 Issue of October 2009. I would recommend all dealing with prostate cancer subscribe to the Prostate Forum Newsletter that always contains a wealth of important prostate cancer information. To do so, email rivannahealth@earthlink.net or telephone (434) 220-3774.

This may be another "hot one" to consider: A medication prescribed for women experiencing hot flashes, Gabapentin, has been effective and I would think could be prescribed to men as well. Best to talk to your physician about this drug. Gabapentin was approved by the FDA in 1994 for the treatment of epileptic seizures. It has also been used to treat headaches and pain from shingles, as well as other medical conditions. Scientists speculate Gabapentin may reduce hot flashes by controlling the flow of calcium in and out of cells. This is one of the methods used by the body to control temperature. Read more: http://tinyurl.com/32kgy8. And http://www.theannals.com/cgi/content/abstract/36/3/433
concludes: Hot flashes resulting from antiandrogen or GnRH analog therapy are often difficult to treat and leave many patients disabled. Gabapentin has been shown to markedly reduce the severity, frequency, and duration of these hot flashes. Controlled trials are necessary to evaluate Gabapentin against other therapeutic modalities. More recently (2015) a caregiver reported that her husband had been on Gabapentin for years for his diabetes and was considering stopping this medication. However, their physician remarked "please don't do it on your own because if done too quickly this medicine that was given for seizures, can cause you to have seizures." The caregiver went on to say "Needless to say, we didn't get off this drug but we are down to a much smaller dose just because we didn't like it."
Accordingly, friends, if you are taking Gabapentin and wish to stop, check with the prescribing doctor and you probably have to wean yourself off the

medication by reducing dosage slowly over a few weeks just as is necessary with prednisone.

From a PubMed report: Effexor (Venlafaxine hydrochloride) appears to represent an efficacious new method for alleviating hot flashes in men undergoing androgen ablation therapy. Further evaluation of this compound for alleviating hot flashes is indicated.

Another I found while visiting the PCRI Insights January 1999 issue were the following recommendations for hot flashes/flushes:
Soy,
Genistein,
Megace®, (**MY NOTE…BUT DON'T FORGET THE EARLIER WARNING IN THIS PAPER REGARDING MEGACE)**
Depo-provera®,
DES,
Effexor ®
- found at
http://www.prostate-cancer.org/education/sidefx/Strum_ADS.html
by scrolling down to near the end of Table 2a.
Entire URL regards Androgen Deprivation Syndrome, by
Stephen B. Strum, M.D., FACP, Medical Oncologist Specializing in Prostate Cancer since 1983 and co-author of "A Primer on Prostate Cancer - The Empowered Patient's Guide."

Another post: For hot flashes ask your physician about 200mg Depo Provera injection or the use of Effexor 12.5mg twice a day or a combination (see above regarding Effexor). If 200mg dosage for Depo Provera is insufficient, could be
increased to 400mg.

Another Email commented that the wife found the following in a women's magazine that worked well for him: 3 cups of sage tea daily.

Dale S. in a post to a PC website list commented: I've been on intermittent Lupron since 04/96. Started having hot flashes soon after I started. Someone recommended a tofu/soy milk/ chocolate mix (blender), drinking a glass a day. Since starting that, I haven't had any more hot flashes. He said: I use one quart Silk Soy Milk, 12.3 oz. Mori Silken Tofu and a couple

tablespoons of Nestles Chocolate milk mix. I blend the above together in a blender. This mix provides enough for one glass a morning for four days. I don't think brand name is important. I usually find the ingredients at WalMart.

Another patient posted: I have become involved in a clinical study using acupuncture. After seven sessions I can report that the number of flashes have been reduced, but more importantly the depth (severity) has declined.

Here is interesting information provided by Geoff Golner that could be considered:

"My alternative practitioner gave me an herbal formula for hot flashes that has worked well for me while on ADT (Lupron & Proscar, at present). I asked him if it would be useful for other men on ADT. He said yes and gave me a "generic" formula for the "average patient." (The proportions would probably vary a little if tailored for a specific individual.) The formula is 11 parts Dioscorea (wild yam root) powder to 18.4 parts Pueraria root (kudzu root) powder.

The dose is 2 teaspoons at once, every other day. My sources are:

Dioscorea: http://www.voigtglobal.com/herbs_botanicals_w-x.htm Item No. 209619-51.

Pueraria root (Chinese name Ge Gen): http://www.ancientway.com/catalog/product_info.php?products_id=1710&osCsid=d97d200481a9c159375e4b33c5dd06a8

Its taste is pretty mild when mixed with water. I've used it for more than a year with no apparent problems. When I ran out temporarily, my hot flashes returned (temporarily)."

Jim Waldenfels, a friend of mine traveling pretty much the identical path I have been on and an extremely knowledgeable fellow regarding our disease, sent the below email to a patient regarding HIS dealing with hot flashes:

"Regarding hot flashes, two non-medical approaches have worked well for the
relatively mild-to-moderate flashes and sweats I have experienced: fans,

particularly when aimed at the head and neck and to move air around my head during
the night, and zippered sweatshirts that allow for convenient adjustments to cope with changes in temperature. I also have taken soy supplements, like those that women take for flashes, for a long time. I am positive the fans and sweatshirts help, and I believe the soy helps, at least in my case. By the way, based on the research by Dr. Maha Hussain, MD, cited by Dr. Charles Myers previously in the Prostate Forum and mentioned in his recent book, I'm now stepping up soy supplements to 200 units per day." **(So here again is this mention of soy at 200 units (mg) per day….that is 200mg of phytoestrogens).**

And for licorice lovers: To cool off hot flashes, nibble on the herb, licorice. It's delicious and often works better than hormonal drugs! (MY **NOTE: Received other word saying in rare cases licorice can cause an increase in blood pressure, so, something to beware**).

From the foregoing, there are obviously many methods of treating hot flashes/flushes that work well for some but not at all for others.

Hopefully one day just one medication will be known as the "one for all, all for one" to curtail "hot flashes."

And I'll close this subject with the below consideration that appears to work for women who experience hot flashes approaching menopause that may be a consideration for we men, as well:

ScienceDaily (July 14, 2010) — With an estimated 85 percent of women experiencing hot flashes as they approach menopause, researchers are concentrating on finding effective treatments that do not include hormonal or other pharmaceutical therapies. Now, a new Baylor University study has shown that women who specifically pictured images associated with coolness during hypnotherapy had a dramatic decrease in hot flashes. The results appear in the *International Journal of Clinical and Experimental Hypnosis*.
"This is an interesting finding because it begins to shed light on what is it, specifically, about hypnotic relaxation therapy that reduces the hot flashes," said Dr. Gary Elkins, professor of psychology and neuroscience at Baylor's College of Arts and Sciences, who has conducted several studies on hypnotic relaxation therapy. "The finding may indicate that areas of the

brain activated by imagery may be identical to those activated by actual perceived events. Consequently, it may be that while a woman suffering hot flashes imagines a cool place, she also feels cool rather than the heat of a hot flash."

While a previous Baylor study has shown that hot flashes can be reduced by up to 68 percent in breast cancer survivors by utilizing hypnotic relaxation therapy, the specific mental imagery used by women for reduction of hot flashes is a new finding.

The Baylor researchers surveyed the 51 breast cancer survivors who participated in a hypnosis intervention study for the treatment of their hot flashes. Participants were asked to identify their own personal preferences for mental imagery for reduction of hot flashes prior to each session. Some participants described actual places they had visited, while other described generalized imagery they preferred.

The results show:

• All participants showed a preference for images associated with coolness, while none used imagery associated with warmth. In fact, when a participant used mental imagery associated with a warm fire, she became relaxed, however the hot flashes did not decrease.

• The most common themes utilized by the participants included cool mountains, water, air or wind, snow, trees, leaves and forests.

• Of the themes, 27 percent of participants visualized water associated with coolness such as a cool waterfall or rain shower. 17.6 percent pictured cool air or wind and 16.2 percent pictured cool mountains. 11.5 percent visualized a cool forest or leaves and 6.8 percent pictured snow. 20.9 percent pictured other things like a cool movie theater or frost on a winter morning.

"These findings really give guidance to what women respond to," Elkins said. "This study supports the idea that the most effective images are those that are generated by the participant themselves, in relation to their own perceptions and life experiences." **(It would appear the results of this study may also give reason for the same effect for men in dealing with hot flashes induced by hormonal deprivation medications).**

FATIGUE (AND MUSCLE LOSS)... yep, that definitely developed during the time I was on androgen deprivation. I must admit, however, that I should have worked against the fatigue by making a daily practice of some type of active exercise be it a daily, long walk, routine stretching and

loosening exercises, etc., but at least something planned. In my younger years I was an extremely active Black Belt (Nidan) in the martial art of Kodokan Judo, so I should know better. But I only continued the routine of most retired men with my only exercise being work around the house, shopping, and the like. I believe that a regular exercise plan and the right mental outlook can counter the effects of fatigue and of muscle loss. Per Medical Oncologist Stephen Strum: "Muscle loss is responsive to resistance exercises. Find someone to work with you on this issue.

Read this from a Prostate Cancer Research Institute (PCRI) paper: http://tinyurl.com/oaan225

Fatigue/Excessive Daytime Sleepiness

The main cause of fatigue for men on testosterone deprivation therapy probably comes from the loss of muscle mass and strength. As men loss muscle mass and strength, many also complain of excessive daytime sleepiness.

Prevention / Treatment Strategies

1. The most important strategy for men to prevent or reduce fatigue while on a TIP is a regular strength training program. As mentioned before, this strategy is best accomplished with the help of a qualified personal trainer.
2. The medication modafinil (Provigil®), which is FDA approved for the treatment of narcolepsy, sleep apnea and shift work sleep disorder, can be helpful for men with excessive fatigue and daytime sleepiness. Modafinil has few drug-to-drug interactions and is usually well tolerated, with the most frequent side effect being transient headaches. However, the use of modafinil has not been studied in men with prostate cancer on testosterone deprivation therapy.
3. Low doses (5-10 mg) of the stimulant methylphenidate (Ritalin®) taken in the morning can also be helpful for men with excessive fatigue and daytime sleepiness while on a TIP. Methylphenidate must be used with caution in patients withhypertension or a history of arrhythmias (abnormal heartbeat).

Here is more info regarding cancer fatigue from the Cleveland Clinic:

http://www.clevelandclinic.org/health/health-info/docs/0300/0305.asp?index=5230. Also, the American Cancer Society reported the use of Ritalin to counter extreme fatigue from radiation or treatment of advanced cancer; see:
ACS :: **Ritalin** Helps Doctor Beat His Cancer-Related **Fatigue**
This article goes on to mention Alladall. In any event, it is extremely important to be very careful when prescribed these medications for fatigue. They can be habit forming and must be handled very carefully. Side effects and pre-existing conditions must be determined prior to their use.

LOSS OF HAIR...my underarm and chest hair disappeared, and there seemed to be less arm and leg hair. No effect on head, face, or pubic hair.

BREAST ENLARGEMENT (Gynecomastia)
"If breast enlargement would be considered by you as an occurrence you would be concerned or find personally unpleasant, you might consider a brief treatment of low dose radiation (300 to 400 cGy) to the breast/nipple area each day for four days **prior to beginning** an antiandrogen (bicalutamide/Casodex, flutamide/Eulexin, or nilutamide/Nilandron). Once you have already begun an antiandrogen, radiation to the breast would have little to no effect in preventing enlargement. Certain estrogen receptor modulator medications such as tamoxifen and clomiphene can also often be used. Medical Oncologist Stephen Strum made this remark: "Actually, the cause of the gynecomastia is due to estrogen production that is caused by high levels of testosterone resulting from single agent therapy with Casodex or any anti-androgen monotherapy or even SAB (sequential androgen blockade) using anti-androgen plus 5 alpha reductase. The way to prevent gynecomastia is by blocking the aromatase enzyme that converts testosterone to estradiol. The drugs available to block this are Arimidex (anastrozole) or Aromasin (exemestane). So, using Tamoxifen extinguishes part of the process causing this side effect but it would not be the only remedy that I would use." In regards to Arimidex and Aromasin, Dr. Strum remarked at another time: "although they are not universally approved for the treatment of gynecomastia." Since estrogen plays an important role in one's health, one should likely use caution when considering use of these inhibitors, and certainly discuss pros and cons with one's treating physician.

Since without first prescribing an antiandrogen prior to administration of an LHRH agonist there is an initial surge in testosterone production over a period of the next week to ten days, the effect of simultaneous surge in

estrogen production could generate the beginning development of gynecomastia as well as nipple sensitivity. And, with only LHRH agonist or antagonist as monotherapy, adrenal gland testosterone can still activate androgen receptors and access the nucleus of cancer cells

A patient commented that Dostinex (Cabergoline) at 0.5mg twice-a-week was prescribed that stopped most pain occasionally experienced early on with ADT, but had no effect on growth. Although stopping LHRH agonists and antiandrogens can lead to some regression of gynecomastia, surgery is sometimes necessary to eliminate the condition.

Vigorous exercises that toughen and muscle up the chest area could possibly at least lessen the appearance of the enlargement. **If you are uncomfortable with the size of your breasts because of the gynecomastia, you might consider a body shaping undershirt for men that can be viewed/ordered at** http://tinyurl.com/yvvja9**.** I only learned of the radiation procedure when I began studying treatment and side effects. Too many urologists as well as oncologists fail to advise patients of breast enlargement preventive measures before beginning the administration of GnRH analogs and anti-androgens. You might consider chest area exercises. It would be wise to first clear any exercise plans with your family physician. To "muscle up" the "pecs" with weight exercises designed for chest muscle strengthening (to possibly reduce the otherwise loose hanging breast tissue), see http://men.webmd.com/features/strength-training-building-chest-muscles. One exercise to try at home would be to stand in your kitchen, somewhat back from a counter so that when you reach out and place both hands on the edge of the counter your body will be straightened out and leaning with your weight on the arms. You can now do "push ups" from that position. You will be able to feel the exercise placed on the breast area muscles (the "pectorals") (CAUTION: be careful not to let your hands or feet slip and you end up banging your face/nose/whatever down on the counter!). Here is another URL that provides a whole slew of exercises (shown for the gals, but works the same for the guys): http://www.womenfitness.net/pectoral.htm. And, of course, you can access the internet and find many exercise routines. I believe it important to recognize your strength and age limitations and to begin these exercises lightly, slowly, and with caution so as not to over-extend or cause yourself harm.

LOSS OF LIBIDO…A definite effect of the loss of androgen/testosterone as the result of androgen deprivation therapy. Frustrating? Obviously, yet it is NOT the end of intimacy.
Per Medical Oncologist Stephen Strum: "Libido during ADT may be responsive to the use of Phosphodiesterase type-5 (PDE-5) inhibitors such as Cialis or Levitra or Viagra. Experiment with one of these under supervision of your MD." Surprisingly, many men and their spouses/partners discover that there is much more to intimacy than only sexual intercourse. It is important that we men continue to recognize the needs of our spouses/partners, and understanding what intimacy is all about can keep that alive. A visit to the following website can be the beginning of learning more about intimacy than you ever imagined: **www.renewintimacy.org**.

Anatole Broyard, a literary critic for the NY Times (died about 1990), wrote a book about his experience with PC: "Intoxicated By My Illness". Some people have criticized the author's near-rhapsodizing about his fascinating "journey" with cancer, but Mr. B. is entitled to his opinions. Many people have found his book to be original and uplifting.
About PC and sex Broyard writes, "When I heard that the cancer might affect my sexuality, my mind became immediately erect".

In July 2009 a spouse addressed her concern about how she can address her husband's lack of libido. I replied with the following explanation:
"When one considers that Libido equates to sexual drive, or the definition "desire, longing, fancy, lust, or rut," when applied to patients undergoing androgen deprivation therapy with LHRH agonists or GnRH antagonists as part of the medication mix, that instinct is extremely decreased in most such patients. It is definitely a problem for couples when the physician has failed to clearly explain to both the patient and his partner the effects of this medication. And this has been an ongoing problem discussed many times over on this PCAI support list as well as on the CIRCLE support list and the CHB support list and other forums. Without sufficient counseling and explanation by the treating physician, the man's loss of libido can make him feel inadequate. And not recognizing that this is a side effect of his medication, many men feel they have lost their masculinity and rather than openly discuss their feelings with their partner they rather clam up and do everything in their power to ignore what has occurred and not want to discuss it. Obviously this has an unexpected effect on the partner not understanding why her man has suddenly lost interest in her and avoids talking with her. And for those relationships that were sound prior to

treatment, this can be particularly devastating for the partner who cannot understand what she has done that her man appears to have nearly shunned her. She questions what she may be doing wrong or if she is less attractive, when that is not the problem. Importantly, it is NOT a loss of affection by the man; it is more a loss of knowing how to discuss his loss of desire to his partner, and embarrassment in being unable to "perform."

It can be most helpful if the partner can calmly address the issue by letting her man know that she recognizes that this necessary medication has such an effect, that she understands, and that she would hope he would open up and discuss just how he feels and what he is experiencing. It is much less stressful with open communication and understanding of what you both are experiencing. And in the communication, it should be brought up that intimacy can be much more than only sexual intercourse. The man has to recognize that hugs and kisses and open conversation still convey the message that the partner is cared for and loved. Though it is more difficult for the man to express desire, previous manners of stimulation can and should still be pursued. And though such stimulation may not have the hoped for effect on the man, he should still recognize its importance to his partner.

From past experience in reading many such issues between couples, this is a subject that has so many variables that it is difficult to come up with a simple conclusive recommendation. The key word is "communication." With communication and regular discourse between couples, the effects of androgen deprivation therapy are much more easily resolved.

In regards to this last paragraph, a woman provided likely the best perspective of what the partner/caregiver is experiencing emotionally while trying to comfort and show understanding:

“Sometimes I think that talking is the most evil form of communication there is. We take such comfort in it, yet we can undo everything we've said in one gesture or in one look, or even in one misinterpretation. Show me. Take me outside and let's watch the sunset together. Put your arm around me and pull me to your side for a long hug that tells me I'm treasured. When you wake up in the morning and meet my eyes, smile when you see me there. Surprise me with a picnic you've made for two, or arrange dinner for four with my friends at a cheerful place that won't mind if we linger until

closing time. Send me happy-to-be-with-you messages. Join me in the shower and let me wash your back after you've washed mine. Touch me, even if it's just a gentle hand on my shoulder, or on my leg beneath the table. Work your way to "bolder" but ease off at the first sign of resistance. I will do the same, always respecting the signals you give, whether you utter them or not. Show me. Discover me. Rediscover us.

Show me what you are saying is true. Then I'll listen to what you need to say."

What a powerful rendering regarding what many (most?) of we men fail to recognize; fail to act on! I was so impressed and told her so as did several others. In my reply I added "I still believe communication is vital, but you alluded well that words used in communication and gestures that accompany those words must be considered carefully so that a remark is not perceived as hurtful." I would encourage all men reading this paper to re-read what this woman provided for our recognition; then take that advice and act on it.

In closing, for men and their wives/partners experiencing difficulty with intimacy as the result of treatment, an excellent book is "INTIMACY WITH IMPOTENCE – THE COUPLE'S GUIDE TO BETTER SEX AFTER PROSTATE DISEASE" by Ralph and Barbara Alterowitz, both certified sexuality counselors (AASECT). This book can be purchased at www.renewintimacy.org."

MEMORY... Cognitive Functioning:

It is important to recognize that despite possible cognitive function loss for some men on androgen deprivation therapy (ADT), under normal, healthy conditions for men with reasonable education that functioning begins dropping in Z score from a high 1.1/1.0 while in one's 20s, and below 0 while in the 50s . Here is what Johns Hopkins notes:

Working Memory (Comprehension Span):
Between age 20 and 30 - dropping from 1.1 to 0.5
Between age 30 and 40 – dropping from 0.5 to 0.3
Between age 40 and 50 – dropping from 0.3 to 0.2
Between age 50 and 60 – dropping from 0.2 to -0.3
Between age 60 and 70 – dropping from -0.3 to -0.6

Between age 70 and 80 – dropping from -0.6 to -1.2

Episode Memory (Free Recall):
Between age 20 and 30 - dropping from 1.0 to 0.5
Between age 30 and 40 – dropping from 0.5 to 0.4
Between age 40 and 50 – dropping from 0.4 to 0.2
Between age 50 and 60 – dropping from 0.2 to -0.4
Between age 60 and 70 – dropping from -0.4 to -0.6
Between age 70 and 80 – dropping from -0.6 to -1.2

Thus, despite the effects of any medication, many men are losing significant memory comprehension as well as recall as part of normal aging. As Johns Hopkins also notes:

"When we reach our 40s and beyond, our memory, mental acuity, and cognitive powers may gradually diminish, to the point where it affects our work, our relationships, and even our safety and health. For each passing decade — into our 50s — 60s — 70s — our ability to recall dates, names, facts, and figures fades — slowly at first, then perhaps more rapidly. And that's assuming we're lucky enough to be attributing those problems only to medications used in androgen deprivation therapy.

Aging has much to do with memory problems and should be considered than attributing those problems only to medications used in androgen deprivation therapy. The Harvard Medical School "HEALTHbeat" had the following excellent article regarding this issue in their October 19, 2010 email issue.

"Forgetfulness — 7 types of normal memory problems

It's normal to forget things from time to time, and it's normal to become somewhat more forgetful as you age, but it's not normal to forget too much. But how much forgetfulness is too much? How can you tell whether your memory lapses are within the scope of normal aging or are a symptom of something more serious?

Healthy people can experience memory loss or memory distortion at any age. Some of these memory flaws become more pronounced with age, but — unless they are extreme and persistent — they are not considered indicators of Alzheimer's or other memory-impairing illnesses.

Seven normal memory problems

1. Transience

This is the tendency to forget facts or events over time. You are most likely to forget information soon after you learn it. However, memory has a use-it-or-lose-it quality: memories that are called up and used frequently are least likely to be forgotten. Although transience might seem like a sign of memory weakness, brain scientists regard it as beneficial because it clears the brain of unused memories, making way for newer, more useful ones.

2. Absentmindedness

This type of forgetting occurs when you don't pay close enough attention. You forget where you just put your pen because you didn't focus on where you put it in the first place. You were thinking of something else (or, perhaps, nothing in particular), so your brain didn't encode the information securely. Absentmindedness also involves forgetting to do something at a prescribed time, like taking your medicine or keeping an appointment.

3. Blocking

Someone asks you a question and the answer is right on the tip of your tongue — you know that you know it, but you just can't think of it. This is perhaps the most familiar example of blocking, the temporary inability to retrieve a memory. In many cases, the barrier is a memory similar to the one you're looking for, and you retrieve the wrong one. This competing memory is so intrusive that you can't think of the memory you want. A common example is calling your older son by your younger son's name, or vice versa.

Scientists think that memory blocks become more common with age and that they account for the trouble older people have remembering other people's names. Research shows that people are able to retrieve about half of the blocked memories within just a minute.

4. Misattribution

Misattribution occurs when you remember something accurately in part, but misattribute some detail, like the time, place, or person involved. Another kind of misattribution occurs when you believe a thought you had was totally original when, in fact, it came from something you had previously read or heard but had forgotten about. This sort of misattribution explains cases of unintentional plagiarism, in which a writer passes off some information as original when he or she actually read it somewhere before.

As with several other kinds of memory lapses, misattribution becomes more common with age. Age matters in at least two ways. First, as you age, you absorb fewer details when acquiring information because you have somewhat more trouble concentrating and processing information rapidly. Second, as you grow older, your memories grow older as well. And old memories are especially prone to misattribution.

5. Suggestibility

Suggestibility is the vulnerability of your memory to the power of suggestion — information that you learn about an occurrence after the fact becomes incorporated into your memory of the incident, even though you did not experience these details. Although little is known about exactly how suggestibility works in the brain, the suggestion fools your mind into thinking it's a real memory.

6. Bias

Even the sharpest memory isn't a flawless snapshot of reality. In your memory, your perceptions are filtered by your personal biases — experiences, beliefs, prior knowledge, and even your mood at the moment. Your biases affect your perceptions and experiences when they're being encoded in your brain. And when you retrieve a memory, your mood and other biases at that moment can influence what information you actually recall.

Although everyone's attitudes and preconceived notions bias their memories, there's been virtually no research on the brain mechanisms behind memory bias or whether it becomes more common with age.

7. Persistence

Most people worry about forgetting things. But in some cases people are tormented by memories they wish they could forget, but can't. The persistence of memories of traumatic events, negative feelings, and ongoing fears is another form of memory problem. Some of these memories accurately reflect horrifying events, while others may be negative distortions of reality.

People suffering from depression are particularly prone to having persistent, disturbing memories. So are people with post-traumatic stress disorder (PTSD). PTSD can result from many different forms of traumatic exposure

— for example, sexual abuse or wartime experiences. Flashbacks, which are persistent, intrusive memories of the traumatic event, are a core feature of PTSD."

For anyone interested in subscribing to the online Harvard Medical School HEALTHbeat, click **http://tinyurl.com/2cqo5e6.**

I never experienced any less memory capability than I would expect being part of aging. I think it important that even without any medication issues as regards memory, that everyone should work at retaining and improving memory through regular reading, working puzzles that challenge the memory, broadening one's knowledge and memory development through researching and studying areas they might not normally pursue (thoroughly educating oneself about everything dealing with prostate cancer research, treatment, and advocacy, for example). Another example is that joining a Prostate Cancer support group and actively participating is not only known to enhance one's longevity, but also helps generate the thought processes. That being said, I do know men who regularly remark that they have more memory loss issues 'because of' their treatment.' Unfortunately, it appears aging is a known cause, and adding medications to treat health issues just exacerbates the problem. It is important to exercise the 'memory banks' to reduce the effect aging and health issues can have on one's memory capability.
This information from "The Medical News" may explain why many patients being treated for prostate cancer, particularly with androgen deprivation therapy medications, may be exacerbating aging cognitive impairment by the effect of those prescribed medications as well as by taking over-the-counter medications: **http://tinyurl.com/lj2z3d**

Here is an interesting Reuters report:

Some Memory Loss Common in Dementia-free Elderly

In 2002, more than 5 million older Americans had cognitive impairments that did not reach the threshold for dementia, according to research findings published in the Annals of Internal Medicine this week. These impairments include some loss of memory and thinking ability.

The findings also indicate that about 12 percent of individuals progress from cognitive impairment to dementia each year.

"Cognitive impairment both with and without dementia can be a problem in late life, but the number of individuals affected by these conditions in the U.S. is unknown," Dr. Brenda Plassman, from Duke University Medical Center in Durham, North Carolina, told Reuters Health.

In a study of 856 people age 71 years and older evaluated between 2001 and 2003, Plassman's team found that 22 percent had some cognitive impairment that did not reach the level of dementia.

Among 180 subjects with cognitive impairment without dementia who were re-assessed 16-to-18 months later, 39 had progressed to dementia.

Plassman's group estimates that in 2002, about 22.2 percent (5.4 million) of individuals in the US age 71 years or older had cognitive impairment without dementia and that the annual rate of progression to dementia was 12 percent, as mentioned.

Plassman said her team is involved in many different types of studies looking, for example, on "how cognitive impairment with and without dementia affects families and the US health care system — so we will be able to see the true human and economic costs of these conditions."

"Hopefully this research will also lead toward developing interventions and treatments, so that cognitive impairment is not one of the leading concerns in late life when our children are in their 70's and 80's."

SOURCE: Annals of Internal Medicine, March 18, 2008.

Per Medical Oncologist Strum, specializing in prostate cancer research and treatment: “Try Namenda (memantine) for memory loss. Use per instructions of an MD. There is literature that PC cells have NMDA receptors on them & Namenda may actually have anti-PC activity. thus you can hope to work on 2 problems at one time. I call this pharmacologic multitasking.”

AND HERE IS AN ARTICLE WORTH THE READ:

The New York Times
nytimes.com

May 20, 2008

Older Brain Really May Be a Wiser Brain

By SARA REISTAD-LONG

When older people can no longer remember names at a cocktail party, they tend to think that their brainpower is declining. But a growing number of studies suggest that this assumption is often wrong.

Instead, the research finds, the aging brain is simply taking in more data and trying to sift through a clutter of information, often to its long-term benefit.

The studies are analyzed in a new edition of a neurology book, "Progress in Brain Research."

Some brains do deteriorate with age. Alzheimer's disease, for example, strikes 13 percent of Americans 65 and older. But for most aging adults, the authors say, much of what occurs is a gradually widening focus of attention that makes it more difficult to latch onto just one fact, like a name or a telephone number. Although that can be frustrating, it is often useful.

"It may be that distractibility is not, in fact, a bad thing," said Shelley H. Carson, a psychology researcher at Harvard whose work was cited in the book. "It may increase the amount of information available to the conscious mind."

For example, in studies where subjects are asked to read passages that are interrupted with unexpected words or phrases, adults 60 and older work much more slowly than college students. Although the students plow through the texts at a consistent speed regardless of what the out-of-place words mean, older people slow down even more when the words are related to the topic at hand. That indicates that they are not just stumbling over the extra information, but are taking it in and processing it.

When both groups were later asked questions for which the out-of-place words might be answers, the older adults responded much better than the students.

“For the young people, it’s as if the distraction never happened,” said an author of the review, Lynn Hasher, a professor of psychology at the University of Toronto and a senior scientist at the Rotman Research Institute. “But for older adults, because they’ve retained all this extra data, they’re now suddenly the better problem solvers. They can transfer the information they’ve soaked up from one situation to another.”

Such tendencies can yield big advantages in the real world, where it is not always clear what information is important, or will become important. A seemingly irrelevant point or suggestion in a memo can take on new meaning if the original plan changes. Or extra details that stole your attention, like others’ yawning and fidgeting, may help you assess the speaker’s real impact.

“A broad attention span may enable older adults to ultimately know more about a situation and the indirect message of what’s going on than their younger peers,” Dr. Hasher said. “We believe that this characteristic may play a significant role in why we think of older people as wiser.”

In a 2003 study at Harvard, Dr. Carson and other researchers tested students’ ability to tune out irrelevant information when exposed to a barrage of stimuli. The more creative the students were thought to be, determined by a questionnaire on past achievements, the more trouble they had ignoring the unwanted data. A reduced ability to filter and set priorities, the scientists concluded, could contribute to original thinking.

This phenomenon, Dr. Carson said, is often linked to a decreased activity in the prefrontal cortex. Studies have found that people who suffered an injury or disease that lowered activity in that region became more interested in creative pursuits.

Jacqui Smith, a professor of psychology and research professor at the Institute for Social Research at the University of Michigan, who was not

involved in the current research, said there was a word for what results when the mind is able to assimilate data and put it in its proper place — wisdom.

"These findings are all very consistent with the context we're building for what wisdom is," she said. "If older people are taking in more information from a situation, and they're then able to combine it with their comparatively greater store of general knowledge, they're going to have a nice advantage."

STRESS…Stress because of concern regarding one's condition can lead to depression, and may also have an effect on cancer cell growth. I have included below the results of a lab study at Ohio University on cancer cells from a head and neck cancer. It validates findings in ovarian cancer and may apply generally. Interestingly, a beta-blocker slowed progression of the stress hormone stimulated cells. This study supports the importance of avoiding stress and depression

"Stress Hormones May Play New Role In Speeding Up Cancer Growth

November 1, 2006. Hormones produced during periods of stress may increase the growth rate of cancer. A new study shows that an increase in norepinephrin, a stress hormone, can stimulate tumor cells to produce two compounds. These compounds can break down the tissue around tumor cells and allow the cells to more easily move into the bloodstream. From there, they can travel to another location in the body to form additional tumors, a process called metastasis.

The research also suggests that the same hormone, norepinephrin, can also stimulate the tumor cells to release another compound that can aid in the growth of new blood vessels that feed cancer cells, hastening the growth and spread of the disease. The work was reported in the latest issue of the journal Cancer Research ....

The target adrenergic receptors for these hormones are well-known to clinicians dealing with high-blood-pressure patients. Typically, such patients are given a class of drugs known as beta-blockers which lead to a lowering of blood pressure levels.

Glaser and Yang wanted to see how these same drugs affected these tumor cells. They added propanol, a beta-blocker, to the tumor cells

and then exposed them to both norepinepherine and epinephrine. With the drug present, the levels of MMP-2, MMP-9 and VEGF didn't increase.

"This suggests a new approach to possibly fight some cancers - the prescribing of beta-blocker-type drugs that would block these receptors and perhaps slow the progression of the disease," Glaser said.

And here is yet more supporting evidence that stress stimulating an uptake of epinephrine can consequently stimulate cancer cell growth:

IT IS IMPORTANT TO DISTINGUISH BETWEEN NORMAL DEPRESSION AND CLINICAL DEPRESSION:

This very important consideration from a caregiver who is an RN for a psychiatrist commenting on what other caregivers are reporting as to the obvious depression of their husband/partner prostate cancer patient:

About depression.....I think it is important here to distinguish between being depressed, which we all feel from time to time based upon the changing circumstances in our lives, and clinical depression, which is a psychiatric condition caused by an imbalance of neurotransmitters in the brain and central nervous system. They are not the same thing. When you start reading about men who have withdrawn from their relationships, who have no energy or pleasure in anything anymore, who maybe eat too much or too little, sleep whenever they can, and have been acting like this for six months or more.....a complete personality change..... now you're talking about a medical condition that won't very likely resolve on its own without medication. Counseling helps, too. Because clinical depression is often a manifestation of long term anger and pain..... the medications help rebalance the neurotransmitters in the brain, but they don't make the anger and pain go away. All else, even ED and loss of libido, become secondary to the need to get help for clinical depression. As sad as it is to lose function and the desire for it, it is sadder still to lose yourself. Nothing can be addressed if you can't get yourself back.

AND HERE IS AN ARTICLE THAT REFERS TO BOTH STRESS AND DEPRESSION:

As an example of how your health is affected by 'what you think', consider the following extracts from findings by psychoanalyst Darian Leader and biological cybernetics researcher David Corfield:

"The concept of fighting spirit has also been much discussed in psychologically minded cancer research. Steven Greer and his colleagues of Kings College Hospital medical school in London found that patients with fighting spirit or denial were more likely to be alive and relapse-free five years after diagnosis with breast cancer than those patients who displayed helplessness or stoic acceptance."

"Results from a detailed study by Brenda Penninx and colleagues between depression and cancer showed; After carefully controlling for smoking habits - since it might seem obvious that depressed people will smoke more - they actually found that the chronically depressed non-smokers were more likely to develop cancer than smokers."

"As for innate immunity, a massive amount has been done on how natural killer (NK) cells involved in the immune system's surveillance of new tumours are affected during troubled periods in life. An NK cell's ability to kill - its cytotoxicity - is reduced during times of mental upheaval or intense pressure."

"Cancers have been described as 'wounds that do not heal'. Therefore, findings that psychological difficulties impact on the speed with which a wound will heal may prove to be very significant. In one experiment, holes were punched in the roof of the mouths of a group of dental students, once during a vacation period and once just before exam time. A wound in the same individual took on average 40% longer to heal at around exam time. If this exam-time stress can have such an effect on wound healing, imagine the effects of long-term chronic human misery."

"Some studies have suggested that the stress hormone cortisol may encourage cancer growth, allowing tumour cells to better extract glucose from the blood by inhibiting its uptake in neighbouring cells. This mechanism suggests further potential ways for the mind to influence cancer growth through the control of blood flow."

These are powerful examples of how your thoughts determine your health.

DEPRESSION and WEIGHT GAIN...There is no doubt that men on androgen deprivation will gain weight unless they do something about it. We already recognize that ADT causes fatigue, and it is more likely this fatigue that results in our failure to keep in mind the importance of a regular exercise and workout routine as well as maintaining a more reasonable diet. And when we fail to exercise and maintain diet control and experience both the fatigue and weight gain, we are more likely to become depressed. So please keep in mind that YOU can do something about inhibiting both weight gain and depression by involving yourself in a daily exercise routine as well as developing a reasonable diet plan. I recognize that many people get depressed by the effects of many things...family, environment, work, inactivity, illness, and the list can likely go on and on. And here, again, it is my opinion that with determination to fight the onset of depression and immediately attacking the reason for the developing depression, either in discussion with close friends or your family physician, you can combat this effect. I'm probably downplaying depression because I have been fortunate to be able to suppress it, so I'll just say that those who get depressed while on a treatment medication are likely those who get depressed about the many other things that can also cause depression. So, does it happen with androgen deprivation? I'm sure for those I've just described it does.
As scientist Steven Wright, a man of many words of dubious wisdom, notes: "Depression is merely anger without enthusiasm." However, here are a few things for consideration:

Per Medical Oncologist Stephen Strum: "So, with weight gain you need to learn the importance of carbohydrate & caloric restriction & increased caloric utilization (exercise). Read The Anti-inflammation Zone by Barry Sears as a starter. Limit your caloric intake to 500 calories per meal. Get into more veggies & limit the amount of
protein to the thickness & size of the palm of your hand (one hand only)."

Karen L. Swartz, M.D., Assistant Professor of Psychiatry and Director of the Johns Hopkins Mood Disorders Center, provides six practical exercise tips to help your ease depression or anxiety with exercise.

Exercise tip 1: Exercise now…and again. Research shows that a 10-minute walk can improve your mood for two hours. Another study

demonstrates that 10 minutes of pedaling on a stationery bike is enough to make you feel better, at least temporarily. The key to sustaining mood benefits is to exercise regularly -- stop exercising, and the psychological lift will disappear. The converse is also true: If you're used to regular physical activity, your mood will suffer if you take an exercise vacation.

Exercise tip 2: Choose activities that are moderately intense. Aerobic exercise, such as walking and swimming, undoubtedly has mental health benefits, but you don't need to sweat strenuously to see results.

Exercise tip 3: Find exercises that are continuous and rhythmic (rather than intermittent). Walking, swimming, dancing, stationery biking, and yoga are good choices.

Exercise tip 4: Be wary of competitive sports. Exercise that pits people head-to-head with opponents may be too stressful, leading to a bad mood in the face of defeat. If you're the type whose competitive spirit may get the better of you, choose a physical activity that you enjoy and that allows you to de-stress.

Exercise tip 5: Add a mind-body element. Activities such as yoga and tai chi rest your mind and pump up your energy. But if you don't want to do yoga or the like, you can add a meditative element to walking or swimming by repeating a mantra (a word or phrase) as you move.

Exercise tip 6: Start slowly, and don't overdo it. More isn't better. Athletes who overtrain find their moods drop rather than lift. You also risk injury and boredom if you push too hard, too fast, or too far.

Posted in Depression and Anxiety on August 15, 2007

AND

More from Dr. Swartz as she explains why the transdermal Emsam patch offers new hope for patients with depression.

In 2006 the Food and Drug Administration (FDA) approved Emsam (selegiline), the first skin (transdermal) patch for use in treating major depression. The once-a-day depression patch works by delivering selegiline,

a monoamine oxidase (MAO) inhibitor, through the skin and directly into the bloodstream, without having to pass through the digestive tract first.

At its lowest strength, Emsam can be used without the dietary restrictions required for all oral MAO inhibitors, making it a far more attractive drug option for people whose depression responds best to MAO inhibitors.

MAO inhibitors, such as Nardil (phenelzine) and Parnate (tranylcypromine), increase brain levels of norepinephrine, serotonin, and dopamine by blocking the action of the enzyme MAO, which normally inactivates these three neurotransmitters. They are effective in many people with depression, especially those whose depression is accompanied by marked anxiety, panic attacks, heightened appetite, or excessive sleeping.

But, as a drug class, MAO inhibitors are typically a last choice for people with depression because of their safety risks. In the intestines, the enzyme MAO breaks down tyramine, a substance found in certain foods and beverages. Oral MAO inhibitors block the breakdown of tyramine in the intestine. This is dangerous because, if a large amount of tyramine is absorbed from the intestine, it can lead to a sudden and extreme elevation in blood pressure called "hypertensive crisis," which is potentially life threatening and requires immediate medical treatment. Foods high in tyramine include aged cheese, aged or smoked meats, tap beer, and very ripe bananas. Nasal decongestants and cold and allergy medicines also contain tyramine.

Emsam represents a significant advance because the innovative transdermal delivery system allows the MAO inhibitor to bypass the digestive tract. At the lowest dose of the patch, which delivers 6 mg of selegiline over a 24-hour period, no dietary restrictions are necessary.

A patient who has been dealing with depression advises that those experiencing depression visit a psychiatrist for true, professional expertise in this area. He reasons that even the Medical Oncologist is inexperienced in the treatment of true depression. He provided this comment: "When I went to see a psychiatrist about depression, he put me on Zoloft which was the most popular antidepressant at that time. It had a completely paradoxical effect on me. I stopped eating, stopped sleeping, and became totally paranoid. The psychiatrist was very calm about all of this, assured me that there were other drugs which would work and put me on the oldest of the

trycyclic antidepressants - Tofranil. It worked like a charm for me. Very similar antidepressants can have very different affects on different people, and I don't believe this is within the expertise of an oncologist." I believe this is important for all reading this to consider.

And here is even something more from Johns Hopkins to consider:

Pets really do improve our mental (and physical) health. Here's why.

Pets are more than just furry friends and loyal companions. Yes, pets tug at our heartstrings, but they also improve our health, both mental and physical, helping us to live longer and happier lives. Studies over the past 25 years have shown that stroking a dog or cat can lower blood pressure and heart rate and boost levels of the mood-related brain chemicals serotonin and dopamine. Heart attack sufferers recover more quickly and survive longer when they have a pet at home, and children who are exposed to pets early in life may have a reduced risk of allergies and asthma.

For people with disabilities, pets can offer a lifeline to a more normal existence: guiding the blind, hearing for the deaf, and performing tasks for those who can't do for themselves. Dogs and cats, even a tankful of fish, calm frazzled nerves and ease anxiety and depression, according to research. In one study, pets seemed to temper some of the psychological stress of being a caregiver to someone who is ill or suffering from dementia.

Dogs also act as conversation starters among strangers, a common interest, and a shared purpose. By getting their owners out of the house, dogs can also be a great stimulus for exercise and a tool for weight loss. In a 2005 study, researchers at the University of Missouri-Columbia found that people who walked a dog for 10 minutes three times a week, eventually working up to 20 minutes five times a week over the course of a year, lost an average of 14 lbs, without changing their diets.

Why do pets make us feel better? One reason is that pets alter our behavior. When they are near, we tend to calm down and speak more slowly and softly. All types of pets offer distractions from the worries of the day, because we naturally shift our attention to them when they are around. Pets also provide an opportunity to touch and stroke another living thing, which has been shown to be of value to our mental and physical health.

A website that may help to recognize and address stress/distress/depression issues:
http://www.nccn.org/patients/patient_gls/_english/_distress/contents.asp

OSTEOPOROSIS...We know that osteoporosis is also an effect of aging. To determine whether or not osteopenia or osteoporosis is occurring is best determined by receiving a Quantitative Computerized Tomography (QCT) Bone Mineral Density (BMD) scan as well as a Pyrilinks-D Dpd deoxypridinolene urine test to determine bone resorption. The QCT BMD is preferred over the normally used DEXA scan for the following reasoning provided by internationally renown Medical Oncologist specializing specifically in prostate cancer research and treatment, Stephen B. Strum:

<Stephen B. Strum, MD>
In my opinion, the use of DXA scanning in the context of men with prostate cancer who most commonly have osteoarthritis as well as vascular calcifications is a reflection of a lack of understanding of the confounding influence of these issues on the accuracy of the DXA scan. Osteoarthritis and/or vascular calcifications will increase the bone mineral density of the DXA scan and result in a false sense of bone density and a lack of need for any treatment to either correct abnormally low bone density or to prevent further bone loss due to medical treatment such as ADT. Moreover, the QCT
bone mineral density test evaluates the trabecular bone, which is 5 times more metabolically active than the cortical bone which is evaluated by the DXA scan."

We also know that, for medical reasons I obviously still don't understand, that by the time a man is diagnosed with prostate cancer, he likely also already has bone density issues. Since the majority of men are diagnosed with PC after 60 years of age, osteoporosis presence at that time can very well be the result of aging rather than the presence of PC. But now we add to the bone issue the medications used in treatment with androgen deprivation. And we do know that the reduction and near absence of testosterone caused by those medications has a direct effect on bone density. And since we know the cause of osteoporosis can come from both aging and medication, we are either medically prescribed bisphosphonates to counter

the effects of the medication, or the physician or ourselves suggest/self-prescribe the addition of supplements to similarly prevent and repair the loss of bone density. (Important to note: If you are to be prescribed bisphosphonate injections – Zometa or Aredia, for example – FIRST make an appointment with your dentist and get all necessary dental issues corrected before that first injection. Extractions, root canals, implants MUST NOT be performed while on bisphosphonates since these medications can weaken bone structure in the jaw. Jaw bone structure disturbed by dental procedures may not heal because of osteonecrosis of the jaw, though very rare, resulting from bisphosphonate medications. Also Important to note: If you are prescribed bisphosphonate injections - INSIST that the initially administered dose be at the lowest dosage possible and administered over a half-hour or so rather than the usual fifteen minutes. This can permit the system to tolerate the drug as well as prevent an effect known as Acute Phase Response (APR) which, if not prevented, can result in unnecessary discomfort and possible bone pain. Subsequent injection dosage level can be raised until reaching the normally administered level).

Since osteopenia and osteoporosis are know threats to men with prostate cancer, particularly those receiving androgen deprivation therapy, the below information gives some recommendations to act against this ailment.

Exercise, osteopenia and men

According to the National Osteoporosis Foundation, osteoporosis affects more than 2 million men in the United States and nearly 12 million more have osteopenia - clinically significant low bone density that is less severe than osteoporosis.

http://www.news-medical.net/?id=31348

JOINT PAIN: One patient believe his joint pain was the result of his LHRH agonist treatment. Nothing seemed to help until he recalled going to an acupuncturist for similar pain in the past. The use of acupuncture for his current pain solved his problem. So not sure if the LHRH agonist or something else was causal. So, if experiencing unusual joint pain, you might consider acupuncture.

I just realized in describing the effects that can be the result of androgen deprivation that I have just written a possible "ADT EFFECTS 101." Yet, in

my description I hope you are recognizing that I have also explained that in and of itself, the side effects on an individual receiving androgen deprivation therapy can either be countered with appropriate thinking and acting, or with appropriate medications. There is no question that the health issues we encounter merely because of our aging - or in the case of prostate cancer, our gender - can really challenge our bodies and our mentality. I have found that one of the best treatments we have at our disposal to fight these many issues is OPTIMISM. When we let negativism into our lives we have chosen the path that only goes downhill and will begin an early lead to our demise that could have been prevented by our own will. (And now it appears I have become a philosopher)

I hope I haven't burst the bubble of anyone regarding androgen deprivation therapy. If your medical needs come to ADT as the option to keep you alive, it isn't such a bad option as those who don't understand it make it out to be.

Important to keep in mind when we suffer from the side effects that accompany the treatment of our insidious men's disease are these words taken from a passage in a book, author unknown:

"So suffering is rough and hard to bear; but it hides beneath it discipline, education, possibilities, which not only leave us nobler, <u>but perfect us to help others</u>. Do not fret, or set your teeth, or wait doggedly for the suffering to pass; but <u>get out of it all you can, both for yourself and for your service to your generation, according to the will of God.</u>"

As the saying is often quoted: "If God brought you to it, He will get you through it." That does not necessarily mean it will be easy or that a cure is in the offing; it rather means what is said in the previous paragraph as well as with your trust, Heaven can be your reward. Even non-believers can be strengthened by acknowledging the previous paragraph.