

Helping Men Research Their Options

The Latest Developments in Prostate Cancer Treatment

February 2015, Is. 18 Vol. 1

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# EDITORIAL

# Image & Imaging

Dear Insights Reader,

Happy New Year! You have probably noticed that PCRI is starting to look different. We have updated a few things, including our logo and slogan, to better reflect who we are and what we do. In the "program update" section of this issue, I will briefly discuss the significance of these changes.

In light of our **Imaging Awareness Matching Gift Campaign**, we wanted to highlight a few prostate imaging developments in this issue. Dr. Fabio Almeida, who will be speaking at our new **Mid-Year Update** Conference (more details later in this issue), will explain how PET imaging works, and discuss what is on the horizon for molecular imaging. Dr. Dan Margolis (also speaking at the Mid-Year Update) will discuss PI-RADS V2, a new numbering system that standardizes use of MRI imaging for prostate cancer. Also in this issue, Richard Wassersug, PhD, will discuss psychological side effects of hormone therapy and how they impact quality of life. Finally, our Senior Educational Facilitator, Jan Manarite, will cover a topic that comes up often on helpline calls: Bone integrity and osteoporosis.

We are excited to bring you these updates and hope that what you read will help you with your continued research about prostate cancer, and answer questions you might have.

-Peter Scholz, Insights Editor



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# The Latest in Molecular Imaging



## Fabio Almeida, MD Director, Arizona Molecular Imaging Center

The Radiologic Society of North America annual conference is the world's largest international medical conference with over 50,000 annual attendants in Chicago each year. I had the honor of giving a presentation as part of the "molecular imaging in prostate cancer" section and I wanted to share this information with the PCRI membership.

he treatment landscape for prostate cancer has been revolutionized by the arrival of multiple novel treatment approaches and agents over the last few years. After initial treatment with surgery or radiation however, up to 40% of patients will experience PSA relapse. Knowing the location of a cancer recurrence is important since recurrence in or near the pelvic lymph nodes may be amenable to additional curative focal therapy.

The primary difficulty is that standard imaging techniques such as *technetium* 

bone scan, CT scans and MRI are usually unable to see tiny recurrent tumors. On the other hand, **PET scans that work by exploiting various aspects of cancer metabolism, can often visualize and locate these small tumors.** In this article I will review some of the exciting new technology that is becoming available.

### Growing Cancer Cells Need to Manufacture New Lipid Cell Membranes

Cell membrane synthesis and the building blocks—acetate and choline—are common structural elements in the cancer cell. Therefore, if these areas of the cancer cell are made radioactive with carbon-11 or fluoride-18 they will "light up" on a body scan.

In the study I presented at the meeting, 373 patients with PSA recurrence were evaluated with C11 Acetate PET scan. We found that the cancer detection rates co-related with the patient's level of PSA. For example, if the PSA was between 0.2-0.4 we had 50% cancer detection rate. If the PSA was between 0.41 – 1.0 the detection rate was 77%. When the PSA was over 1.1, detection was was 90%.

# Featured Topic

Prostate Cancer Imaging

#### PSMA (Prostate Specific Membrane Antigen)

Some of the studies presented from other centers were also very interesting. For example, PSMA is a cell surface transmembrane glycoprotein that is over-expressed in prostate cancer cells and would appear to provide a rational target for diagnostic imaging and possible directed therapy. Multiple Gallium (Ga68) labeled PSMA probes (imaging agents) have been topic of study particularly in Germany for the last few years. Researcher from Germany, Dr. Frederick Giesel, presented his work on Gallium-PSMA PET in pre-treatment staging prior to radiation therapy. His study found that in 26 of 56 (46.4%) patients the treatment plan was changed after Gallium-PSMA PET imaging. This study demonstrates the significant impact that PET imaging probes can have on the treatment selection of patients with primary prostate cancer.

An interesting departure from the PET agents discussed in this session was a presentation regarding *trofolastat*, which is a small molecule PSMA ligand. This agent is labeled with **Technetium-99m** which is a SPECT radiotracer. This study reviewed the ability of trofolastat to detect prostate cancer in 54 high risk patients within the prostate gland and found correlation for the detection of the primary cancer in 91% of patients. Problematic was that all patients in this study had high risk disease with large prostate cancers and/or extra-prostatic extension (T3 or greater). Yet in 6 of the study patients, the primary prostate cancer was not identified at all! In this setting, one would hope for a near 100% detection rate for the primary cancer.

### **Amio Acid PET Scans**

A synthetic non-metabolized amino acid analog (anti-18F-FACBC) accumulates in prostate cancer cells due to over-expression of multiple amino acid transport systems. A recent Italian study suggests that anti-18F-FACBC scans may be superior to C11-choline for localization of disease in PSA recurrence. At the meeting Dr. Oluwaseum Odewole from Emory University presented results of a study comparing the accuracy of anti-18F-FACBC with the accuracy of a standard CT scan. Seventy of 86 patients (81.4%) were positive for detecting cancer with anti-F18-FACBC versus only 16 of 86 (18.6%) on the CT examinations. PSA level was also important in the detection rate for anti-18F-FACBC with the positivity rate at a PSA <1 ng/mL for anti-18F-FACBC of 38.5%, while for PSA  $\geq$  1 scan positivity rate was 89.0%. The results of this study appear to be fairly comparable to that of C11-Acetate and Choline, especially when the PSA is > 1 ngmL.

### **Bony Matrix**

**Sodium Flouride (F18-NaF)** is readily absorbed into the matrix of bone and has very high affinity for bone metastasis. F18-NaF PET/CT has been shown to provide higher sensitivity and specific-

ity than technetium based planar and SPECT bone imaging for detection of osseous (bone) metastases in prostate cancer. With all of the molecular imaging probes thus far discussed, the consensus from the conference was that bony metastasis can be identified more readily with these PET imaging probes compared to conventional imaging. There was general agreement from the various presenters, however that all of these probes missed very small bony lesions which had only a very small volume of cancer cells, but these lesions were often seen on F18-NaF PET. In a separate session at the meeting, I presented the results of a direct comparison study of C11-Acetate PET to F18-NaF PET in 185 patients. F18 showed a slightly higher rate of detection of bony metastasis (41%) compared with C11-Acetate (32%). Overall however, the best detection rate came with using both C11 and F18.

### Conclusion

For evaluation of the intact prostate gland as part of initial diagnosis, under active surveillance, and for targeted biopsy, multiparametric MRI is becoming the imaging study of choice. PET scans are not likely to compete with MRI in this area in the immediate future. However, they may be complimentary, especially in patients with higher risk disease to rule out the presence of local and distant metastatic disease.

With the plethora of these different types of PET scans (and particularly with

Dr. Almeida will be speaking at the 2015 Moyad and Scholz Mid-Year Update, see page 11 for more details.

the many variations on PSMA probes), the question however remains which is the best? The following characteristics appear important: 1) a fluorine (F18) tag would be optimal as this is the most widely used cyclotron produced isotope, is readily available throughout the US, and would result in the most cost effective agent, 2) low radiation dose to the patient and to those who work with the agent, 3) rapid clearance from the background, 4) high specificity and 5) little or no urinary excretion. Unfortunately, none of the imaging probes to date meet all of the optimal characteristics. The point regarding urinary excretion is important, as high urinary excretion in the ureters and urinary bladder cause significant interference with detection of lesions in the nearby areas (i.e the prostate, prostate bed and adjacent lymph nodes). The PSMA probes have the potential to have the highest specificity, but unfortunately, all these probes to date demonstrate high urinary excretion and high background in the blood pool, which may hamper the overall usefulness of these agents. C11-Acetate and C11-Choline offer several of the desired characteristics, but the short half-life of the C11 isotope requires more costly dedicated equipment. Of these probes, F18-FACBC perhaps comes closest to having the optimal characteristics and will be of keen interest for further evaluation as a first line imaging study for detection of metastatic prostate cancer and in the evaluation of PSA recurrence.

# **Imaging Awareness Matching Gift Campaign**

A generous donor has blessed PCRI with a \$500,000.00 donation matching program that matches dollar for dollar any funds donated to our "Imaging Awareness Campaign" BEST MERICA CRITIERD BY INDEPENDENT CHARITIES OF AMERICA

1,000,000 men receive unneccessary biopsies every year when mp-MRI is less invasive and just as accurate.

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# www.PCRI.org/Donate



# New Recommendations for Nulti-Parametric MR

## By Dan Margolis, MD Assistant Professor of Radiology at University of California Los Angeles.

he American College of Radiology (ACR) recently released the new guidelines for the performance and interpretation of prostate MRI with the European Society of Uroradiology (ESUR). The accompanying reporting guidelines, known as "Prostate Imaging Reporting and Data Systems" or "PI-RADS" is given the "v2" designation as the first version was released two years ago by the ESUR. Our understanding of the utility of prostate MRI has improved markedly in the interim. The guidelines are now streamlined, and in many ways simplified, while taking into account a deeper understanding of how each of the components of multi-parametric magnetic resonance imaging (mpMRI) influence the overall assessment, which is given as a "score," from 1-5. (see table below)

These new guidelines include recommendations for the scanners used to perform mpMRI scans and the protocols utilized for the scan in addition to standardizing evaluation and reporting. This should provide more uniform reports regardless of the reporting institution. A number of medical articles have shown that using the older recommendations for performance and reporting improve the diagnostic accuracy for less experienced readers. The new recommendations should improve this further.

What does this mean for patients? It is unlikely to have an obvious impact on the experience in the scanner, or in the physician's office or examination room, since the effects of PI-RADS would largely take place behind the scenes. The major change will be that scans performed at less experienced centers might now adhere to protocols that will make scans more universally interpretable, increasing availability of quality mpMRI scans. At sites where mpMRI is well-established, however, it is unlikely to result in a significant change, since many of these

PIRADS 1	Clinically significant cancer highly unlikely to be present
PIRADS 2	Clinically significant cancer unlikely to be present
PIRADS 3	Clinically significant cancer equivocal to be present
PIRADS 4	Clinically significant cancer <i>likely</i> to be present
PIRADS 5	Clinically significant cancer highly likely to be present

sites have already adapted reporting to their optimized scanner protocols based on correlation with clinical factors. At more experienced sites, the reporting can be refined based on correlation with pathology and outcomes, potentially improving upon the benefits achieved by standardized reporting.

The hope is that as these performance and reporting protocols are put into practice, the understanding of how well these evaluation criteria correlate with pathology and outcomes will improve beyond single-site experience. We currently do not know with certainty how well each of the overall assessment levels correlates with the likelihood of finding significant disease, as this will depend on the patient population being studied in addition to technical factors. It is straightforward to determine the performance of the standardized assessment criteria at a single center, but slight variations from site to site make generalization complex. The ACR is planning to establish a network to do just that, but it will take time to perform the analysis. In the meantime, the reporting recommendations will at least improve the performance at less experienced centers.

Empowering Stories from PCRI's free Helpline Service

# Trust **Your** Instincts

## By Jan Manarite and John Mullineaux, PCRI Helpline Facilitators

ecently, the PCRI Helpline received a call from a newly diagnosed man. Having no health insurance, Mr. R.'s only entry into the health care system was as a military veteran through his local VA center. A PSA test had come back elevated the year before and his doctor wanted him retested. For some reason the test got delayed, and Mr. R. had to call his urologist several times to try and reschedule. After months of delays, Mr. R. had a second PSA test that was also high, 13.8. Because he is African-American and at higher risk for prostate cancer, his doctor scheduled him for a biopsy.

Mr. R. was informed that he had prostate cancer by a message left on his answering machine, which was overwhelming and frustrating for him. He was also told to schedule an immediate appointment to see his urologist. At that appointment, Mr. R. was told he had to schedule surgery immediately, but he left with no understanding of his personal cancer characteristics. He did not know his Gleason Score or what a Gleason was. He did not know how many biopsy cores were cancerous, or the size of his prostate. And he left with no medical records.

Following his instincts, Mr. R. told his doctor he needed to understand other options first and called the PCRI Helpline. During that call, the Helpline explained that every prostate cancer is different, and it is critical to understand the characteristics of each case. We suggested he obtain copies of his medical records and gave him a short and simple list of what to ask for at his doctor's office.

On the follow up call, the Helpline staff helped Mr. R. understand his biopsy report which showed significant amounts of Gleason Score 9, and cancer in all 12 cores. He was only age 56. We helped him understand that he would be categorized as high risk prostate cancer because of his Gleason and PSA, and it would be prudent to also get an opinion from a radiation oncologist. We helped him to look at both risk and benefit when choosing a treatment, and helped him develop questions for his physicians based on his personal situation. Even though this was overwhelming at times, Mr. R. was confident, determined, and felt glad that he trusted his instincts to not rush into surgery. He felt empowered that he now had a basic but clear understanding of his Gleason and PSA.

The PCRI Helpline also helped to connect Mr. R. with an UsTOO support group in his city, where some of the men were familiar with the VA system, and local resources. This contact might help give him ongoing support through whatever treatment decision he makes. He now understands that every prostate cancer is different, and most importantly, how his case was different. His instincts to follow up, ask questions, and not rush into a treatment were validated by what he learned, and his instincts served him well.

# Program Update The latest happenings at PCRI



Helping Men Research Their Options

# Program Update Peter Scholz, Communications Manager

he PCRI was founded in 1996 to address the prevailing lack of understandable information available to the prostate cancer patient. Back then we addressed this problem by starting a helpline, this newsletter, and the first website aimed at patient education and empowerment. At that time, information on the topic was sparse and while there were alternative treatments for PCa, few people knew about them. The landscape has dramatically shifted. Now with an overflow of available information, it is difficult for patients to judge the quality or bias of the vast amount of available information. Times are changing, PCRI has evolved to meet these needs.

Our strategy to help patients navigate this confusing terrain by offering programs that help them understand thier personal case. We inform patients of the specific obstacles they are likely to run into while on their journey, and explain the best way of circumventing them while getting the best outcome. Knowledge of one's personal case leads to the information they need, avoiding the confusion that comes with the information they do NOT need. Through our programs, we take a unique approach towards patient empowerment. Our goal is to assist you with your research, helping you weigh the risks and benefits of the decisions that you and your doctor make together. Our experienced Helpline staff can answer questions, define terms, and help you decipher your medical records. Our conference puts you in touch with leading doctors and researchers so you are aware of cutting edge care and management techniques. Our website and this newsletter are a resource not just for information but tools that enable you to understand your own personal case.

We help you research your options and empower you to converse with your medical team so you can decide what is right for you, after you have sifted through the risks and benefits of each option.

Our updated logo, graphics, and slogan are a reflection of our evolution to help meet the needs of prostate cancer patients, and our mission to help them achieve the best care and outcome possible through effective shared decision making.

# 2015 MOYAD & SCHOLZ MID-YEAR UPDATE

THE LATEST IN MEN'S HEALTH AND PROSTATE IMAGING

## Where: Los Angeles Airport Marriott





University of California Los Angeles

Daniel Margolis, MD, Assistant Professor of Radiology,

Dr. Margolis is a world leading expert in the use of MRI

Topic: MP-MRI for Newly Diagnosed Prostate Cancer

terization of cancer and efficacy of treatment.

for prostate cancer and is interested in its use for charac-









#### Mark Scholz, MD, Medical Director, Prostate Oncology Specialists Dr. Scholz specializes in treating prostate cancer and is the author of the book "Invasion of the Prostate Snatchers: No More Unnecessary Biopsies, Radical Treatment or Loss of Potency." Topic: Testosterone for Men with Prostate Cancer

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  AND ESTROGEN FOR MEN AND
  WOMEN
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## BY RICHARD WASSERSUG Ph.D.

# PSYCHOLOGICAL SIDE EFFECTS OF HORMONE THERAPY

About half of all men treated for prostate cancer will be prescribed hormone therapy—more accurately known as Androgen Deprivation Therapy (ADT)—at some time along their cancer journey. ADT is often started prior to radiotherapy to improve the efficiency of that treatment. When used that way, it is called neo-adjuvant therapy. ADT is also used as a second line therapy when patients experience a continuing rise in PSA or have other evidence of residual disease after either a radical prostatectomy or some form of radiotherapy undertaken with the intent to cure the disease. In those situations ADT is considered adjuvant therapy. Lastly, ADT is used as a systemic therapy to treat the disease when it has spread beyond the prostate gland.

DT deprives the body of the main androgen, testosterone, the key hormone that normally promotes prostate cell growth. Although ADT is not considered curative, for many patients it can hold prostate cancer in check for years, sometimes for decades. In the early stage of metastatic disease, ADT can also cause some painful metastases to regress, improving patients' quality of life.

ADT obviously benefits many patients. The downside is that ADT is now known to cause an array of side effects and some of those are substantial. Long-term use of ADT increases the risk of osteoporosis, bone fracture, anemia, weight gained as fat with a concomitant loss of muscle mass (that combination is called sarcopenic obesity), and possibly cardiovascular disease, kidney disease and diabetes. Much has been written about strategies for reducing the more serious metabolic and musculoskeletal side effects of ADT. Less attention has been given to the psychological impact of ADT, which I am focusing on here.

Let's start with the normal roles of testosterone in the body. Testosterone (along with its more potent derivative, dihydrotestosterone) gives men the multitude of features that define males as men and distinguishes them from most females. This includes their more muscular bodies, their facial hair, and their propensity to go bald in middle age. Most notably, testosterone gives men their sex drive, which is diminished in most men on ADT.



Dr. Wassersug is a prostate cancer patient and a research scientist who studies the psychological and sociological impact of androgen deprivation in various populations. He is the author or co-author of over a dozen peer-reviewed articles on the topic. He is currently an Adjunct Professor in the Department of Urologic Sciences at University of British Columbia and part of team developing the Prostate Cancer Supportive Care Program for The Vancouver's Prostate Centre. He is the lead author on the new book, Androgen Deprivation Therapy: An Essential Guide for Prostate Cancer Patients and Their Partners.

But psychologically testosterone does more than that. Testosterone has been described as a "social hormone" [1] for it not only regulates men's desire for sex, but also their propensity to compete with other individuals; i.e., in popular lingo it gives men their "machismo." Many studies report men feeling less energetic, less motivated, and to some degree less macho while on ADT. In sum, ADT impacts on how men feel about themselves and interact with others. This is revealed in many ways, and is discussed further below.

### Depression

Although low testosterone is not necessarily a primal cause of depression, testosterone levels decline naturally with age, and low testosterone has been associated with depression in some middle-age and older men, who are not cancer patients. In cancer patients, depression may be linked to some extent with anxiety associated with disease progression. Putting men on ADT doesn't make that situation any better. DiBlasio et al. [2] reported "a three-fold increase...between rates of pre-ADT psychiatric illness and development of de novo illness" after starting on ADT. More recently Lee et al. [3] confirmed in a controlled study that ADT is most notably associated with an increased risk of depression. Those authors make a plea for clinicians to both screen patients on ADT for depression and intervene when they find it.

### Cognition

There have been several studies suggesting that ADT also impacts cognitive functions. Cognitive functions are those mental processes involved in how we perceive, think, reason, and remember. Patients anecdotally report memory problems on ADT, but some of that may be due to normal aging. Back in 2008, Nelson et al. [4] however reported that between 47% and 69% of men on ADT experience some impairment in at least one cognitive domain. They concluded that ADT "is linked to subtle, but significant cognitive declines in men with prostate cancer" and felt that clinicians should "inform and monitor patients for this possible side effect of treatment."

Recently McGinty et al. [5] revisited this topic with a meta-analysis of studies completed to date on ADT and cognition. They flagged visuomotor tasks as the domain where patients on ADT were most likely to experience cognitive decline. In real life, this can manifest itself in problems with finding papers on a messy desk, car keys left somewhere about the house, and even locating the car itself in a large parking lot. McGinty et al. reinforce Nelson et al.'s conclusion, asserting that "knowledge of the cognitive effects of ADT may help patients and [healthcare] providers better understand the impact of ADT on quality of life."

### **Men & Emotions**

Changes in emotionality have been repeatedly reported for androgen-

deprived prostate cancer patients (as well as male-to-female transsexuals, who similarly go on androgen-depriving treatments), but these have not been precisely characterized and may be manifested in different ways by different men. In general terms, they range from men becoming more sentimental to more irritable [6].

The most conspicuous change that has been reported is an increase in tearfulness. In our society women may cry, but in the cultural stereotype for the western world "real men" don't cry. Increased tearfulness can thus be embarrassing to men on ADT.

How men see this increased emotional ability, and whether they accept it or not, may have a great impact on how well they adapt to ADT in general. It is not inconsequential that for half of our species, crying is seen as empathetic and not necessarily a negative personality trait. I have met a fair number of patients on ADT, who announced that they now share tissues with their partner when they go to a dramatic movie...and feel closer to their partner as a consequence. However such open acceptance of the changes brought on by ADT is not always easy. Some men, who are not comfortable with the changes they are experiencing, feel ashamed or out of control at being seen by others as acting, or reacting, differently than they did before ADT. In contrast to the patients who acknowledge and accept emoADT can negatively impact on a man's interactions with the person he is normally closest to, and this can have repercussions on that person's health.

tional change, they strive to hide it and perhaps hope that it will go away...or at least go unnoticed. They then get distressed and even angry if it is recognized and commented on by someone else.

#### **Impact on The Partners**

The "someone else" is often the patient's partner, who sees ADT-induced changes in their partner's personality before he sees them in himself. This can lead to conflict between patients and partners if they have different coping strategies. Often women find it beneficial to talk out problems, whereas men often resort to denial as a defensive mechanism, particularly when facing problems they cannot easily solve. That can lead to frustration and then depression in the patient's partner, who may feel rebuffed and rejected, when the patient wants to neither acknowledge nor discuss how different he feels on ADT. [Various research groups have described versions of this conflict when heterosexual couples are challenged by ADT; the impact of ADT on same sex couples has vet to be investigated.]

In sum, ADT can negatively impact on a man's interactions with the person he is normally closest to, and this can have repercussions on that person's health. In general, the psychological distress associated with cancer is greater on females then on males whether they are the patient or the partner [7]! This has recently been documented for a variety of cancers, including prostate cancer, where the female partners show persistently higher levels of anxiety than the male patients [8]. In fact, over 20 years ago Kornblith et al. [9] reported greater psychological distress in the partners than the patients on ADT.

To put this in slightly glib terms, ADT can cause a "communicable iatrogenic psychiatric disorder". In other words he is medically emasculated, not acting quite like he used to, and she is now depressed. As a part of informed consent, when starting patients on ADT, one might suppose that patients and partners would be informed of this possibility as part of routine clinical practice. But that doesn't always happen. In defense of the healthcare establishment, the depth and breath of this problem has become much worse over the last 20 years as more men are living much longer on ADT. And out of fairness to uro-oncologists, the care they provide should be focused on the patient. After all, keeping him from dying of prostate cancer is a major step in the right direction for reducing distress in his partner. However there is reason for healthcare providers to be particularly concerned about the psychological burden on the partners of prostate cancer patients since the distress in the partners correlates with the distress in patients. In fact Kim et al. [10] showed that there is "evidence of partner effects, at least for women. That is, women's distress predict[s] men's physical health, over and above the men's distress, ... age, and cancer stage." Seen in that light, all of us—patients, partners, and healthcare providers—should be concerned about the health and welfare of not just patients on ADT, but also their partners.

### Helping Patients & Partners Deal with The Adverse Effects of ADT

Going one step further, I would argue that we should be concerned not just about the individuals, but about preserving their partnership as a co-supportive dyad. Too often cancer treatments can be so debilitating that they cause cosupportive partnerships to devolve into a patient/caregiver dynamic. Our job should be to help prevent that. Strong partnerships are first and foremost built on intimacy, which means sharing something with someone that one doesn't share with others. When we are young, sex is a bonding act, an intimate act that builds partnership. But when we age—and in particular for patients on ADT whose sexual desire is depressed maintaining intimacy and protecting partnership can be challenging.

When it comes to dealing with ADT side effects, whether they are the physiological ones affecting the cardiovascular and musculoskeletal systems, or the psychological ones affecting the patient's mood and emotionality, there is one intervention that can help across the board. That is physical exercise. Not only can exercise protect the heart, bones, and muscles, but it can improve mood and memory, reduce depression and fatigue, and recently it has even been shown to improve sexual function for patients on ADT [11].

To bring this back to the psychological impact of ADT on patients and its indirect impact on partners, exercising together can help maintain intimacy and thus help keep prostate cancer couples together. In that regard, I am particularly impressed with the "Exercising Together" program for prostate cancer patients developed at the Oregon Health & Science University (OHSU) in Portland, Oregon [12]. This is a partnered, strength-training program for prostate cancer couples, which essentially trains patient and partner to work as a training team, partly by being the fitness trainer for each other and partly by doing exercises in tandem. The final results of that study are soon to be submitted for publication, but preliminary analyses show that partnered exercise is helpful not just in strengthening patients' and partners' bodies and minds, but also strengthening their spousal bond. The Vancouver Prostate Cancer Supportive Care program where I work is now piloting a modified version of the program.

Not all prostate cancer patients have life partners, but having one and keeping one's partnership strong and healthy is one of the most effective treatments for prostate cancer. As Aizer et al. [13] noted, the survival benefit for prostate cancer patients in having a supportive spouse (call it marriage if you will) beats any benefit of chemotherapy.

References can be found online at PCRI.org

# Bone Health & Prostate Cancer Understanding Your Risk of Osteoporosis

# *By Jan Manarite PCRI Senior Educational Facilitator*

Your skeletal system is a system of organs - a living, growing, integral part of your overall health, just like any other organ system within your body. Each bone is considered an organ in and of itself. Keeping your bones healthy can have multiple benefits, the greatest of which is preventing fracture. This article is intended to give you a better understanding of your risk of osteoporosis, and develop the right questions to research for yourself, and ask your physician(s).



Osteoporosis is not just a 'condition' – it is a 'disease'. This may surprise you, but the National Osteoporosis Foundation states that men older than 50 are more likely to break a bone due to osteoporosis, than they are to get prostate cancer.

The International Society for Clinical Densitometry (ICSD) states that "Osteoporosis is under-recognized and under-treated. Testing for bone loss, or osteoporosis (DEXA Scan, QCT) in men is not done routinely. There is a prevalent misconception that osteoporosis is a disease of women." About 20% of people with osteoporosis are reported to be men.

### When Should You Ask for A Bone Density Test?

Start by asking your primary care physician, or your medical oncologist. Sometimes initiating the conversation with a nurse can be helpful. Understanding some background information about osteoporosis will help you carry on a more informed conversation.



### **Primary Risk Factors:**

- Hormone therapy treatment
- Over age 50
- Having a thin frame/stature
- Tobacco use
- Excessive alcohol or caffeine
- Lack of exercise
- Vitamin D deficiency
- Thyroid or parathyroid problems
- Cortisone use
- Previous fracture
- Bone metastases

There are several types of **bone density tests**, but the most common are the DEXA Scan and the QCT. PCRI Executive Director, Dr. Mark Scholz, states that "... only QCT is accurate in men. In men, DEXA seriously underestimates the degree of osteoporosis." However, the DEXA Scan is certainly the most commonly used scan, and easier to locate, but it is worthwhile to look for a radiology site that offers the QCT. Both tests are quick, easy, and do not require an injection. Many prostate cancer patients have had a bone scan as part of their original staging, or checking for recurrence. It is important not to get this confused with a bone density test – they are different. The bone scan looks for cancer, and the bone density test looks for osteoporosis.

### **Your Bone Density Report**

PCRI recommends that you obtain and keep copies of your medical records, including the written report from your bone density test. These reports can look daunting at first, but if you learn what to look for, you can develop a basic understanding of the key important findings. In the case of a *bone density report*, it is primarily one score that you are looking for, the T-Score. This is the score that gives you a diagnosis, and the state of the density of your bones. (See Table 1.)

### Treating Osteopenia or Osteoporosis

There are several approaches to treatment, but weight-bearing exercise or resistance exercise is foundational. Exercise in general is of great overall

Categories	T-Score Range	Examples
Normal Bone Density	-1 and above	1.0, 0,5
Osteopenia	Between -1 and -2.5	-1.1, -1.5, -2.4
Osteoporosis	-2.5 and below	-2.5, -3.0, -4.0

benefit to prostate cancer patients. Of course, this should be discussed with a professional, especially if you already have bone loss, or have been diagnosed with bone metastases. But research has shown that weight-bearing exercise not only builds muscle, but can also build bone density.

Estrogen has also been shown to play a role in bone health. Studies have shown that estrogen can help men with bone loss, hot flashes, and sometimes even fight their prostate cancer. Testosterone is converted to estrogen and that stimulates bone health. Estrogen, which is missing in men on hormone therapy, can be administered safely in the form of a low-dose skin patch. Estrogen is one way to slow the rate of bone loss. In addition to exercise and estrogen, there are additional treatments available for prostate cancer patients who have osteoporosis, bone metastases, or both. It is important to note that all of the treatments in Table 2 recommend a dental exam before starting therapy and supplementing with and/ or monitoring levels of both calcium, and vitamin D3.

In addition to the treatments listed in Table 2, there are prescription pills which are in the same class of drugs as Zometa & Reclast (bisphosphonates), which are designed to prevent and treat bone loss. They include Fosamax (alendronate), Boniva (ibandronate), and Actonel (risedronate).

### Table 1



Drug	Insurance Eligble Patients	Administration
Zometa (Zolendronate)	PC patients with bone metastases	IV Drip Monthly
Xgeva (Denosumab)	PC patients with bone metastases	1 Shot Monthly
Prolia (Denosumab)	Men with osteoporosis at high risk of fracture or pc patients on hormone therapy (no bone mets) at high risk of fracture	1 Shot Every 6 Months
Reclast (Zolendronate)	Men with osteoporosis	IV Drip Annually

### How Long Should I Stay on Zometa, Xgeva, or Prolia?

Every treatment decision is a risk (side effects) vs benefit (disease response) decision. Clearly these drugs offer great benefit for many patients. If taken correctly (dental checkups, daily calcium, daily vitamin D), then the benefit can be significant.

Experts may have different opinions on how long a prostate cancer patient should stay on these treatments. But there is general agreement that it is possible to be on them for too long. The greatest benefit from these treatments probably occurs in the first year or two. There is some disagreement as to when risk of side effects begins to outweigh the benefits. This is an ongoing discussion that you should have with your medical oncologist, and your nurses. In addition, ask about retesting your bone density after you have taken steps to improve it. It is important to have a way to measure the benefit of any therapy. Prostate cancer patients live in a world where shared decision making with one's doctors is not only important, but it is encouraged. Understanding your personal risk of osteoporosis is a great place to start. It will help you develop a basic understanding of how to access your medical records, a process you will find is very empowering. We don't accept mental recall or verbal information for other important matters in our lives, such as our finances, our taxes, or our children's report cards. Why do we accept it for personal medical information?

- Osteoporosis is: A disease, seldom tested for in men, easy to test for, easy to treat, and the leading cause of fracture in men of advanced age
- A bone density test is NOT the same as a bone scan
- Hormone therapy can cause bone loss
- Patients should get a dental checkup before starting Zometa, Reclast, Xgeva, or Prolia
- It is recommended that patients take calcium & vitamin D3 while on Reclast, Zometa, Xgeva, or Prolia
- Calcium & vitamin D levels can be measured with a blood test
- Patients should talk to their medical oncologist about how long they should stay on Zometa, Reclast, Prolia, or Xgeva

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# **2015** PROSTATE CANCER CONFERE

# SEPT. 11-13, 2015



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MEDIVATION

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**Charles Drake, MD** 

#### Peter Grimm, DO

**Prostate Cancer Center of Seattle** 

#### Mark Moyad, MD

\*Speakers & University of Michigan Medical Center

#### John Mullhall, MD

Memorial Sloan-Kettering Sexual Side Effects

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## JOIN PATIENTS & CAREGIVERS, LEARN ABOUT THE LATEST **PROSTATE CANCER DEVELOPMENTS** FROM RENOWNED MEDICAL EXPERTS

The Prostate Cancer Research Institute's annual conference is the leading conference for prostate cancer education and support. The conference provides a weekend of educational sessions verv on treatment options, both new and of landmark importance, and addresses lifestyle and quality of life issues. Information is presented by world-renowned physicians and researchers. The keynote sessions are moderated by Dr. Mark Moyad, a leader  $\bigcirc$ in the fight against prostate cancer, who makes it personal and relevant to the patients in the audience. In addition, there are opportunities throughout the 3-day event to participate in Q&A sessions with the faculty, hear in-depth presentations about particular treatment options, attend support groups with other patients, and meet with various organizations and companies who provide services and products for prostate cancer patients.



# Mark Moyad, MD

Jenkins/Pokempner Director of Complementary & Alternative Medicine University of Michigan Medical Center

# Prostate Cancer Research Institute

#### Mark Scholz, MD Medical Director Prostate Oncology Specialists & **Executive Director**









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## Learn more at: WWW.PCRI.ORG

or one weekend out of every year, PCRI holds a conference where patients gather together and collectively learn about the latest in prostate cancer care and lifestyle as well as treatments of landmark importance. The conference brings hundreds of patients, caregivers, support group leaders, and physicians together for a long weekend of lectures and interactive sessions.

Patients will interact closely with the world's most knowledgeable physicians as well as recognized academic researchers, who have extensive experience or specialty in prostate cancer care and are from top notch medical institutions.

Our engaging faculty communicates this information in a way that the attendees can comprehend and apply to their own case, so they can take action. Over the course of the weekend, attendees often collaborate to help process and understand the wealth of information that is presented.

- Roundtable discussion: A panel where conference faculty discuss their medical opinions on real clinical cases.
- Q&A with the Speakers: Conference attendees may ask faculty specific questions in a more intimate setting.
- Ask the Experts: 90-minute interactive sessions that focus on topics such as Medical Oncology, Urology, Radiation Oncology, Immunotherapy, nutrition, a prostate-friendly lifestyle and much more.
- Support Groups: With the help of PCRI's partners and professional facilitators, support group meetings are available to patients and their significant others.
- Exhibit Hall: Ballroom where attendees view display booths and materials, interacting with representatives from exhibiting companies and partnering organizations.







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# **2015** PROSTATE CANCER CONFERENCE



