In This Issue:

What the Heck Has Been Going On In My World

Update: Carbon-11-Acetate PET/CT Imaging in Prostate Cancer

Focal Laser Ablation of Prostate Tumors

Be sure to visit our new website at: www.paactusa.org
We now offer the convenience of making donations online!
A NOTE FROM THE PRESIDENT RICHARD PROFIT

I recently (last week) had drinks with a member of PAACt. The question of funding came up. Specifically where does PAACt’s funding come from? My answer after a slight pause was solely from our members. But, now it seems the funding has dried up or that we no longer have any members, because donations are almost non-existent and I do not know what the answer is. Unfortunately, if we continue down the road that we are on, we will not be here for another 28 years to help all those men stricken by Prostate Cancer. Please consider donating to PAACt, so that we may continue to help inform and educate Prostate Cancer patients, advocates and physicians about the various treatment choices that are available to them. Your donations will also allow us to help further Prostate Cancer Education & Research whenever possible.

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PET imaging of cancer metabolism is commonly performed with F18 fluorodeoxyglucose (FDG), and has become one of the primary tools in the evaluation of cancer patients [1]. This is based on the well-established understanding that many cancers are highly glycolytic or have increased metabolism of glucose [2].

Although FDG may accumulate in aggressive and undifferentiated tumors, most prostate cancers demonstrate poor uptake of FDG, probably because most of these are well-differentiated tumors. Additionally, FDG is secreted into the urinary system, often interfering with pelvic pathologic findings and therefore significantly limiting its usefulness.

PET imaging of other metabolic pathways, such as amino acid or lipid metabolism, has now been explored in cancer. Fatty Acid Synthase (FAS) participates in controlling the lipid composition of cell membranes, and is over-expressed in many human cancers, particularly prostate cancer [5,7]. The degree of its over-expression appears to be correlated with tumor aggressiveness [6]. Among the different PET tracers that have been specifically evaluated for lipid metabolism imaging, Carbon-11-Acetate (C11-Acetate) demonstrates utility for detecting recurrent prostate cancer.

**RECURRENT & METASTATIC PROSTATE CANCER**

Prostate carcinoma is the second most leading cancer cause of death in American men. The presence of an elevated prostate specific antigen (PSA) level after definitive treatment, such as prostatectomy (RP) or radiation therapy (RT) is suggestive of recurrence. Unfortunately, recurrence of prostate cancer after treatment is frequent, occurring within 10 years in about 30%-40% of patients.

After RP, a PSA level of greater than 0.2 ng/mL, confirmed by two consecutive measures, can be associated with either residual or recurrent disease. After radiation therapy (RT), a PSA value of 2.0 ng/mL above the nadir represents persistent or recurrent disease.

The management of recurrent prostate cancer depends strongly on whether recurrence is confined to the prostatic bed (local failure), the regional lymph nodes in the pelvis or if distant spread has occurred. Although a trend of increasing PSA has been proposed as a way of predicting local recurrence versus distant recurrence, only imaging procedures are capable of discriminating between these scenarios [3,4].

Therapeutic options in recurrent and advanced prostate cancer are rapidly expanding. Thus, there is a need to develop imaging approaches that will a) allow for detection of and discrimination between local recurrence and distant metastatic disease, and b) permit the monitoring of tumor responses to these new therapeutic approaches.

Typically restaging for a recurrence is performed with a combination of ultrasound guided trans-rectal (TRUS) biopsy, computed tomography (CT), magnetic resonance imaging (MRI), and bone scans (BS). None of these however are very effective at detecting recurrences early enough to help select patients for salvage therapy with a curative intent. Additionally, these may limit the potential use of novel therapies by their inability to detect recurrences.

**CARBON-11 ACETATE POSITRON EMISSION TOMOGRAPHY (C11-ACETATE PET)**

Several small studies have evaluated the relationship between serum PSA levels and detection of prostate cancer recurrence with C11-Acetate PET. In a study of 25 patients by Fricke et al., the degree of C11-acetate uptake was correlated with serum PSA levels [8].

Kotzerke, et al., evaluated a series of patients with suspected recurrence based on serum PSA measurements [9]. Trans-rectal ultrasound followed by biopsy served as the gold standard for C11-acetate PET imaging findings. C11-Acetate was true positive for disease recurrence in 15/18 patients with biopsy proven recurrence and was true negative in all 13 patients without recurrent disease by biopsy. Sensitivity was 83% and specificity 100%. Additionally, 4 of 5 patients with biopsy proven cancer and positive C11-Acetate PET imaging findings had serum PSA levels of less than 2.0 ng/mL.

Sandblom, et al., evaluated 20 patients with elevated PSA levels ranging from 0.5 to 8.1 ng/mL after radical prostatectomy [10]. C11-Acetate PET identified disease sites in 75% of the patients. In this study, all PET-positive patients had serum PSA levels of greater than 2.0 ng/mL. “False positive” findings were reported in 3 patients. One patient
exhibited tracer uptake in the chest, which was subsequently confirmed to represent non-small cell lung cancer, while two other patients had inflammatory changes, one in the esophagus and the other in the mediastinum. As expected, this study suggested that C11-Acetate uptake is not cancer-specific, but rather, a probe of lipid metabolism which may also be altered in inflammatory disease.

COMPARATIVE STUDIES
A few groups have compared the diagnostic performance of C11-Acetate with that of other metabolic PET imaging probes in patients with prostate cancer. In a small study, Kotzerke, et al., evaluated 12 patients with prostate cancer [11]. C11-Acetate and C11-Choline, a substrate of choline kinase that is also incorporated into membrane lipids, were compared in patients after initial diagnosis, at the time of biochemical recurrence or after radical prostatectomy. The study found that C11-Acetate was not excreted into the bladder while urinary excretion was variable for C11-Choline. In terms of overall biodistribution and tumor uptake, the diagnostic performance of both imaging probes was found to be comparable.

In our own institution, we compared lesion detectability using FDG and C11-Acetate imaging in a small group of prostate cancer patients with recurrent or metastatic disease [12]. Eighteen patients were imaged with both FDG and C11-Acetate PET with a PSA ranging from 0.32 – 13 ng/mL (mean 5.0ng/mL). C11-Acetate PET detected tumors in 14 (78%) patients, whereas FDG PET detected lesions in only 2 (14%) of the imaged patients. In the two FDG PET positive patients, the PSA was relatively higher than in the other patients, with values of 7.8 and 11.15 ng/mL, respectively. C11-acetate PET was also positive in these two patients, detecting more disease with a significantly higher tumor to background uptake ratio. C11-acetate PET detected recurrence in the intact prostate or prostate bed in 5 patients, lymph node involvement in 6, bone in 4 and liver in 1. In 3 of 5 patients with lesions detected on C11-acetate, the PSA was < 1.0 ng/mL.

These studies suggest that C11-choline and C11-acetate appear to have a comparable accuracy for detecting local recurrence and metastatic disease in early PSA recurrence, while FDG PET does not seem to provide significant diagnostic value in this context.

PRELIMINARY RESULTS FROM THE ARIZONA MOLECULAR IMAGING CENTER
As part of an ongoing FDA-approved clinical investigation, the Arizona Molecular Imaging Center has thus far performed over 150 C11-Acetate PET/CT imaging studies, significantly more than have been previously published from a single institution in the U.S. Preliminary results from our studies have been very encouraging, and demonstrate a direct benefit to many patients that would not be achievable with any other standard imaging technique. See Cases 1-4 below for examples of positive imaging studies.

In our experience thus far, the overall detection rate of C11 Acetate PET/CT imaging for recurrent or metastatic disease has been 85%. When we separate the positive findings into various PSA levels, the detection rate has been 73% for PSA values of 0.4 – 1.0 ng/mL, 89% for 1.0 – 2.0 ng/mL and 93% for > 2.0 ng/mL. Our results to date have shown a higher detection rate than data from previously published studies, likely in part due to our use of more modern, state-of-the-art PET/CT imaging technology which allows for better detectability and localization of smaller lesions, and due to establishing a standardized imaging protocol based on tracer kinetics which had been lacking in prior studies.

Most of our study patients are still in early follow-up. However, in several patients with initial follow-up after additional therapy, such as radiation therapy directed toward the recurrence or metastasis, or after surgical removal of the lesion identified on the C11-Acetate images, there has been a significant decrease in PSA, confirming the accuracy of the C11-Acetate imaging.

Our imaging studies are further revealing the inadequacy of using PSA as a predictor of local versus distant recurrence. An initial evaluation of our positive studies show that recurrence was identified outside of the prostate gland or prostate bed (extraprostatic involvement) in 73% of patients over a wide range of PSA values, and as low as 0.5ng/mL. Positive nodes only in the pelvis where seen in 17% of patients and 25% showed lesions only in the bone.

Patients with prior prostatectomy and a rising PSA represent one of the most challenging groups, as many are offered salvage radiation therapy to the prostate bed without any imaging evidence of where the recurrence actually is. The success of prostate bed salvage radiation therapy is said to depend on the margin status and PSA, with a rate of success of only about 40% when the PSA is <0.5, and far less when the PSA is >0.5 [13]. When we review this subset of patients in our study (59 patients), we find that with a PSA of 0.5 – 2.0ng/mL, one third of patients are found to have recurrence limited to the prostate bed, a third to have only pelvic node involvement and another third of these patients to have bone involvement. The ability of the C11-Acetate to differentiate where the disease is located, then allows for appropriate selection of patients for which radiation to the prostate bed is more likely to succeed, and also identify which patients may benefit from radiation also given to the pelvic lymph
nodes. The PSA values were clearly not able to provide this differentiation and prostate bed radiation therapy based on the PSA alone would have failed in the majority of these patients.

**CASE EXAMPLE 1.** Gentleman with prostatectomy 10 years previously. External beam radiation 1 year previously for a rising PSA. The PSA continued to increase up to 6.9 ng/mL. The 3 dimensional Carbon-11 Acetate PET/CT images show a small metabolic lymph node in the left pelvis (yellow arrows). This would not have been diagnosed on CT alone based on its small size. Other areas of 'red' seen on the images are of normal Carbon Acetate in the intestines, kidney’s, liver and spleen. No other lesions were seen. The left pelvis node was treated with IMRT and the PSA then decreased to 0.9 ng/mL, confirming involvement of the identified node.

**CASE EXAMPLE 2.** Gentleman with Gleason 7 prostate cancer and external beam radiation (EBRT) to the prostate 4 years previously. PSA nadir was 0.43ng/mL. Rising PSA to 3.9 ng/mL. The 3 dimensional Carbon-11 Acetate PET/CT images show a metabolic focus in the right side of the prostate gland (yellow arrows). No other lesions were seen. The prostate recurrence was confirmed by biopsy with subsequent Brachytherapy performed. The PSA decreased to 0.6 ng/mL after treatment.

**CASE EXAMPLE 3.** Gentleman with Gleason 6 prostate cancer. Brachytherapy and external beam radiotherapy 12 years previously. PSA nadir was 0.16 ng/mL. Rising PSA to 2.17 ng/mL. The 3 dimensional Carbon-11 Acetate PET/CT images show a single small metabolic lymph node in the left upper pelvis (yellow arrows). As in Case example #1, this would not have been diagnosed on CT alone based on its small size. Bilateral pelvic lymph node dissection was performed with 13 nodes removed. The node identified on the C11-Acetate imaging study was confirmed to be involved with prostate cancer (Gleason 4+4=8) and all other removed nodes were negative/benign, confirming the solitary finding on the imaging study. The PSA decreased to 0.19 ng/mL after the lymph node surgery.

**CASE EXAMPLE 4.** Gentleman with prostatectomy 9 years previously. Rising PSA to 4.8 ng/mL. The 3 dimensional Carbon-11 Acetate PET/CT images showed a single bone metastasis involving the second cervical vertebral bone (yellow arrows). No other lesions were found in the bone, lymph nodes or in the prostate bed. The cervical lesion was confirmed on MRI. Initially this patient was to have salvage radiation treatment to the prostate bed, but with the C11-Acetate results the treatment plan was changed to radiation treatment just to the bone lesion. The PSA decreased to 0.2 ng/mL after the treatment.

Due to recent changes in FDA regulations regarding new radiopharmaceuticals such as C11 agents, access to C11-Acetate now requires participation in an approved clinical study.
The Arizona Molecular Imaging Center has worked with the FDA to open an approved Phase II clinical investigation, and is pleased to offer Carbon-11-Acetate PET/CT imaging studies for localizing recurrent prostate cancer. Because this type of scan requires an on-site cyclotron, we are one of the few sites in the country capable of doing these studies, and currently the only FDA-approved private site for C11-Acetate imaging for recurrent prostate cancer.

Our center is equipped with state-of-the-art PET/CT imaging, which provides an extra advantage in the detection of small lesions. The C11-Acetate study requires only a single intravenous injection of the tracer and the imaging procedure can be completed in about 20 minutes.

**FUTURE DIRECTIONS**

Although both C11-Acetate and C11-Choline are proving to be excellent imaging tools for the detection of recurrent prostate cancer, the very short half-life of C11 (20 minutes) and the need for an on-site cyclotron are limiting factors for widespread adoption. Other PET imaging agents are being investigated, such as Fluorine-18 labeled amino acids, which may provide similar results as C11-Acetate. The Arizona Molecular Imaging Center is working toward participating in further investigation of such agents as these may provide better patient access to quality prostate cancer imaging tools.

For information about participating in our C11-Acetate PET imaging clinical trial, please visit the ClinicalTrials.gov website: http://clinicaltrials.gov/ct2/show/record/NCT01304485 or call Dr. Fabio Almeida directly at 602.331.1771.

**REFERENCES:**


**WHAT THE HECK HAS BEEN GOING ON IN MY WORLD**

**BOTTOM LINE:**
If you have metastatic hormone refractory prostate cancer and are running out of options, talk to your doctor about whether or not you would qualify for one of the many early access program sites for the IV drug alpharadin (go to www.clinicaltrials.gov) or contact any of the major prostate cancer advocacy groups such as PAACT for more information.

**WHAT ELSE?**
Alpharadin is a radium-223 dichloride medication that goes into the body and targets areas of bone metastases and can kill tumor cells by delivering short-range alpha irradiation. It
also reduces the risk of damage to surrounding healthy areas. How does it do this? Radium is actually somewhat similar to calcium and is taken up in areas of the body with increased bone metabolism that occurs with bone metastases. At the site of the metastasis it can deliver some radiation to kill tumor cells, but it also has side effects that should be discussed with your doctor.

**BREAKING NEWS #2!**

239) Taking 1 Centrum Silver multivitamin from the 1990s, 1 low-dose multivitamin or 1 children’s multivitamin daily, might slightly or moderately reduce a man’s risk of being diagnosed with cancer (even if he has a history of cancer), especially as you get older! **BREAKING NEWS!! WHAT A GREAT STUDY!** Hey, was Moyad right or wrong on this one? Stay tuned because there is more information coming from this study over the next few months! Oh, but the daily multivitamin did not have any significant impact (good or bad) on reducing the risk of prostate cancer (but this is also questionable...read my summary please).

(Reference: Gaziano JM, et al. JAMA, 2012 appeared on-line early)

**BOTTOM LINE:**

In the first ever, randomized trial, of a multivitamin in men compared to a placebo, a once a day Centrum Silver reduced the risk of being diagnosed with cancer in those with and without a history of cancer over an 11-year period. So, this solidifies the Moyad recommendation for an adult to take a children’s multivitamin or a Centrum Silver, especially as you get older (70 and over individuals benefitted the most)! However, keep in mind that we are waiting on the cardiovascular risk data from this study to be published very soon and we do not know how that will turn out! And, the researchers found no impact (good or bad) of the multivitamin on prostate cancer.

**WHAT ELSE?**

I have been saying for almost 2 decades to take 1 multivitamin (at most) or in reality take a children’s multivitamin or even nothing at all until we get some data or really good research that you should take more than 1 multivitamin or any multivitamin daily. So, I hate to say that “I told you so” but we will cover that point soon enough. Basically, the makers of Centrum Silver have to be given a lot of credit here! They risked their entire business on this study that started in the late 1990s! How many folks would have believed back in the 1990s, or even now, that a daily multivitamin in healthy and unhealthy men would reduce the risk of being diagnosed with cancer!!!

So, let’s review this amazing study that I have been anxiously waiting for over 10 years (yes, I know my life is pathetic, but at least PAACT and you (the amazing reader) are here to allow me to put my feelings down on paper every 3 months). This was a randomized, double-blind, placebo-controlled trial known as the Physicians’ Health Study 2 (PHS2), which included 14,641 male physicians at least 50 years or older (average age of 64.3 years), which included 1312 men with a history of cancer at the time the study started. The study began in 1997 and continued until June 1, 2011. Men had to take a daily multivitamin or placebo, and the primary measurement in this study was the total number of cancer cases diagnosed between the multivitamin and the placebo group. These men were followed for a median of 11.2 years. There were 2669 men diagnosed with cancer during this study, and over half the cases (1373) were men diagnosed with prostate cancer, and there were 210 cases of colon cancer. Men taking a multivitamin daily compared to a placebo had an 8% reduction in being diagnosed with cancer that was statistically significant (p=0.04). The daily multivitamin had no positive or negative impact on prostate, colorectal cancer or other major cancers. There was no significant reduction in the risk of dying from any cause including cancer when the multivitamin was compared to the placebo. However, the daily multivitamin was associated with a significant 27% (p=0.02) reduction in the risk of being diagnosed with cancer in the 1312 men with a history of cancer. The researchers of this paper concluded their article by saying “In this large prevention trial of male physicians, daily multivitamin supplementation modestly but significantly reduced the risk of total cancer.”

Wow! So, Doc Moyad what else can you tell me about this groovy study! Well, first let me tell you what I found to be the most brilliant part of the study, which was in the discussion part of the medical paper where these brilliant researchers stated the following: “The reduction in total cancer risk in PHS2 argues that the broader combination of low-dose vitamins and minerals contained in the PHS2 multivitamin, rather than an emphasis on previously tested high-dose vitamins and mineral trials, may be paramount for cancer prevention.” IN OTHER WORDS, when MOYAD says “less is more” in terms of benefit he really means it! Okay, that is not exactly what they meant here, but I think you get the point. Quit mega-dosing and keep your pill count small and low-dose, if you can, and that includes your multivitamin. However, let’s review the Centrum Silver multivitamin used in 1997, which the participants took over the entire study (they never changed the dosages) and you are going to be shocked. The chart on the next page shows the ingredients and dosages from the multivitamin used in the study (compare this to your multivitamin)*:
What you should notice from the above table is that there are not many multivitamins today that have these vitamins and minerals listed above in such low amounts! THIS IS WHY AFTER 15 YEARS MY RECOMMENDATION STAYS THE SAME.... PLEASE TAKE EITHER A CHILDREN'S MULTIVITAMIN OR A CENTRUM SILVER (or something close to this formula).

In fact, many of today's children's multivitamins have similar amounts to what is listed above and keep in mind that so many foods have nutrients and antioxidants added to them now that it is best to stick close to the dosage in the table or pick something even less! Also, remember that original Centrum Silver is not exactly the same as it used to be, but has added higher amounts of some ingredients and more nutrients. HOWEVER, ALSO KEEP IN MIND THAT WE ARE WAITING FOR THE LATEST DATA FROM THIS STUDY ON THE IMPACT OF THIS MULTIVITAMIN ON CARDIOVASCULAR DISEASE RISK AND MENTAL HEALTH. SO, YOU MAY WANT TO WAIT UNTIL SOME OF THE DATA IS RELEASED AND WE CAN MAKE A FINAL RECOMMENDATION. I WILL KEEP YOU UP TO DATE! Although, again - In the meantime - I continue to take a children's multivitamin (or something close to it).

What else did you find in this study Doc Moyad? There were other fascinating findings from this study. For example, the physicians utilized in this study were for the most part INCREDIBLY HEALTHY! Only 3-4% were current smokers and most were close to a healthy weight, 60% exercised regularly, 80% drank alcohol in moderation, red meat intake was low and fruit and vegetable intake was 4-5 servings per day. The other thing that you should know is that the longer the study was continued, the greater the separation appeared to be between the multivitamin and placebo group. In other words, had this study been allowed to go another 3-5 years, the results could have been really interesting. So, if a multivitamin reduced the risk of being diagnosed with cancer, then why didn't it significantly lower the risk of 1 major type of cancer like prostate or colon cancer? The answer is that many cancers were non-significantly reduced compared to placebo and when they were all added together the results became significant or robust enough with all the cases, but one specific cancer did not stand out. For example, although the following specific cancers never reached statistical significance there was a reduction in risk with the multivitamin compared to placebo in cancers such as:

- Colorectal cancer=11% reduction
- Lung cancer=16% reduction
- Bladder cancer=28% reduction
- Leukemia=17% reduction
- Leukemia death=40% reduction (almost reached significance or p=0.053)

In fact, there was almost a statistically significant reduction in cancer deaths, which were reduced by 12% (p=0.07), but again I wonder what would have happened if the study was allowed to go a little longer? And, keep in mind that the side effect rate with the multivitamin was similar to the placebo, especially in terms of gastrointestinal symptoms and most other side effects from head to toe. Men were more likely to report getting rashes on the multivitamin (7% increased risk that was significant), and a 10% higher risk of reporting a bloody nose, but there was a 9% lower risk of finding blood in the urine with the multivitamin compared to the placebo. Otherwise and overall there were no side effect concerns.

“What else Doc Moyad? Your analysis of this study is so awesome tell me more!” Okay, since I asked myself this question I will continue to talk about this study. It was very interesting that men with a history of cancer when they began the study had a 27% reduction in the risk of being diagnosed with another cancer (p=0.02), and if you eliminated the men that were diagnosed with leukemia or lymphoma the risk reduction was 34%, but the reduction in risk of prostate cancer was 44% in these men and this almost reached significance.
experts" tried to down play these results when they obviously
Dew, I realize this, but I was shocked at how some bone headed
this one!  Okay….I need to switch to decaffeinated Mountain
maximus and give the dietary supplement world some credit on
TAKE IT DAILY AND RECOMMEND IT!!! Come on some of
exercise routine it would still work….OF COURSE I WOULD
were otherwise really, really, really healthy with a great diet and
you have a history of cancer), the drug cost pennies and if you
may eventually reduce your risk of dying from cancer (even if
objective here!  If a drug with the same side effects compared
part of the research shows that it was heart healthy or heart
CHILDREN'S MULTIVITAMIN DAILY , as long as the next
SUGGEST THAT MEN SHOULD TAKE A CHEAP ,
WHAT ELSE?
There has been a lack of lifestyle studies after radical
prostatectomy (RP) to determine whether or not certain
exercises can improve physical and mental function and urinary
control rates.  This wonderful new study was a randomized trial
of 66 patients allocated to a combined (resistance, flexibility, and
Kegel) exercise or a control group (only Kegel).  The intervention
was conducted twice a week for 12 weeks beginning 3 weeks after
surgery.  The average age of the men were 69 years old (average
BMI of 24=normal weight).  A total of 49 patients completed the
study and after 12-weeks all physical functions (fitness, flexibility,
and balance), except grip strength, were significantly better in
the exercise versus the control group.  Most of these exercises
just involved using a “balance ball” and some resistance bands.
The 24-hour urinary pad results (p=0.002) were 12.2 g in the
exercise group and 46.2 in the control group, and continence
rates were 73 vs. 44% (p=0.04). In other words, there were
significantly less incontinence issues in the exercise group, and
only the exercise group experienced significant improvement in
quality of life, including a reduced risk of depression scores. No
changes were observed in fat mass, muscle mass, BMI or waist/ hip
ratio after the exercise intervention.  This is a good thing
because a person should not be performing strenuous exercise
after surgery, but they also should not just be a bump on a log (I
never understood this analogy, some bumps are on logs that are
moving rapidly down a river, which implies that some bumps
are overweight or obese.  It is also interesting that in the small
group of current smokers there was a 28% reduction in cancer
risk in the multivitamin group compared to men who
smoked but received the placebo.

So, now I have given you more information than you need
and I probably confused some people so what else is there to
say right now?  You can look at these results like republicans
versus democrats before an election.  It depends whose side
you are on…. Folks who are not advocates of supplements have
already mentioned that the reduction in cancer risk is so tiny
that a multivitamin is not worth it.  Folks who are big fans of
supplements will tell you that at least there was a reduction in
cancer risk and the side effects were no greater compared
to a placebo.  So, who is right and who is wrong?  First of all I
believe very few “pundits” actually read the entire study or even
knew about this study or the fact that it was going on for over a
decade.  So, from the one idiot-oops I mean pundit (that’s
me) who micro-dissected this study and has written about and
followed it for almost 15 years, here is my final objective opinion
(see below….drum roll please):

THESE ARE VERY IMPORTANT FINDINGS THAT
SUGGEST THAT MEN SHOULD TAKE A CHEAP
CENTRUM SILVER – LIKE, MULTIVITAMIN OR
CHILDREN’S MULTIVITAMIN DAILY, as long as the next
part of the research shows that it was heart healthy or heart
neutral and did not do any harm (stay tuned).  You have to be
objective here!  If a drug with the same side effects compared
to placebo could reduce your risk of cancer as you got older,
you may eventually reduce your risk of dying from cancer (even if
you have a history of cancer), the drug cost pennies and if you
were otherwise really, really, really healthy with a great diet and
exercise routine it would still work….OF COURSE I WOULD
TAKE IT DAILY AND RECOMMEND IT!!! Come on some of
you negative "experts" please take your head out of your gluteus
maximus and give the dietary supplement world some credit on
this one!  Okay….I need to switch to decaffeinated Mountain
Dew, I realize this, but I was shocked at how some bone headed
"experts" tried to down play these results when they obviously
had not read the entire research paper, because they would
rather spend more time on their ego and developing a biased
opinion, compared to several hours going through every inch
of the study results!

240) Low impact core exercises after radical prostatectomy
may improve physical function, continence rates, and
quality of life.  Men (and women suffering from
incontinence) can be assigned to do more than just Kegel
exercises to improve multiple mental and physical post-
prostatectomy outcomes.

(p=0.07). So, in reality it is potentially possible that some men
(those with a history of being diagnosed with another cancer)
may reduce their risk of being diagnosed with prostate cancer if
they take a multivitamin.  Men who had no history of cancer at
the start of the study (means they had not been diagnosed with
any cancer at the time or before the study started) experienced
no reduction in the risk of prostate cancer.  ALSO OF REAL
INTEREST TO ME WERE THE MEN WHO STARTED THIS
STUDY WHO WERE 70 YEARS OR OLDER, HAD AN 18%
reduction in risk of cancer in the multivitamin group compared
to placebo, and men who were in their 50s or 60s only received a
0-4% reduction.  Men who were of normal weight had a greater
risk reduction in the multivitamin group compared to men who
were overweight or obese.  It is also interesting that in the small
group of current smokers there was a 28% reduction in cancer
risk in the multivitamin group, compared to the men who
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had not read the entire research paper, because they would
rather spend more time on their ego and developing a biased
opinion, compared to several hours going through every inch
of the study results!

240) Low impact core exercises after radical prostatectomy
may improve physical function, continence rates, and
quality of life.  Men (and women suffering from
incontinence) can be assigned to do more than just Kegel
exercises to improve multiple mental and physical post-
prostatectomy outcomes.


BOTTOM LINE:
Perhaps it is time for all prostate cancer patients to work on their
“core” (back, abdomen and pelvic muscles) to potentially reduce
the side effects of prostate cancer treatment.  Talk to a trainer or
check reputable internet medical sites for some instruction on
“core” exercises using a large “balance ball.”
Do you ever think about something so basic or logical in health and medicine, that you simply know or want to believe you know the answer before the question has been thoroughly tested? What am I really trying to say here? It’s just that it has always seemed so darn (could have used a really strong swear word there folks like “dang”) logical that if patients could improve their core strength and exercise soon after surgery or another procedure, that their outcomes would definitely be better. Even though we cannot prove this right now, I think it is safe to say that some type of soft exercise regimen after a procedure such as surgery will at least improve mental health. My personal bias is that after 1-year this recent study would probably also further improve continence and even erectile function rates. I believe the greater teaching point here is that, along with many of my urologic and cancer colleagues, we have “ignored the core” (sorry, I just trademarked that phrase so the next time you use it you have to send me a beer or 50 cents….I prefer the beer), so to speak. We get so excited advocating lifestyle and dietary changes and even weight lifting, but in reality the abdomen, pelvis and back muscle areas appear to get ignored apart from the ageless, timeless and really effortless and boring Kegel exercises. Can’t we do better than just Kegel exercises after all these decades of surgery and radiation being a primary treatment for prostate cancer (okay that was rhetorical, sarcastic, but at least it was pithy)? Sure, I am like you and curse the men and women on the cover of the fitness and muscle magazines because of their 6 to 12-pack abdominal muscles, that I know I could never achieve without some dramatic contribution by a photographic airbrushing expert(s), and 24-hour a day work shifts that must involve quitting my job and having no life whatsoever. Yet, perhaps many of the so-called “one with earth” and “one with nature” folks have been right all along and we have been completely wrong. I started doing 100 sit ups while sitting on a balance ball (placing my feet against a wall for support) several times a week after I read this research article and my back and abdominal muscles feel stronger already, but there is no way I am going to eat grape nuts cereal or eat rice cakes (I hate that stuff as much as a root canal), because I am not changing my diet - only some of my exercise routines that I recommend. Seriously folks, I really believe this research has changed my perspective on the importance of working on “core strengthening” exercises so that all muscle groups have balanced strength and benefit. And, remember these core muscle groups support very delicate areas of the body and also improve their overall function. Move over Kegel, there is a new sheriff in town who wants your job, ASAP, and his name is “core” and he (or she) believes you can be doing a lot more to reduce your risk of side effects from cancer treatment compared to what we have already been telling you over the past several decades! HOW AWESOME IS THIS STUDY!!! (notice please the 3 exclamation points which symbolize that this study was 3 times more awesome compared to a 1 exclamation point research study….this is what I call Moyad nerd language and for all you single guys, please do not make fun of it, because this was the kind of language that had my wife so attracted to me on our first date - she knew she’d have to spend the rest of her life with me in sickness and in health…in other words nerds and nerd language is sexy - this is what I am trying to say folks).

241) Gastric bypass surgery causes significant testosterone increases for men, but this finding also applies to every man reading this part of my PAACT column (and women too).


BOTTOM LINE:
Significant weight loss improves testosterone and normalizes PSA levels.

WHAT ELSE?
Obese men tend to have lower levels of multiple blood markers including testosterone, DHEA, and PSA, but they also have an increased risk of dying younger from other causes and from prostate cancer. The true impact of significant amounts of weight loss in a short period of time on PSA and testosterone has received minimal attention in patients who have received gastric bypass surgery. So, researchers wanted to see what would happen to the male body with a large amount of weight loss.

Researchers looked at a consecutive group of men undergoing gastric bypass surgery who participated in a longitudinal and prospective study. A total of 64 patients were followed for a period of 12 months. The average age and weight was 48 years and 154 kg (339 pounds). The average body mass index (BMI) was reduced from 48.2 pre-operatively to 32.4 after 12 months post-surgery. Testosterone increased significantly from 259 ng/dl at baseline to 386 at 3 months, 452 at 6 months, and 520 ng/dl at 12 months! PSA levels increased significantly from a baseline of 0.51 ng/ml to 0.67 ng/ml at 12 months. There were no significant changes in PSA mass or DHEA levels. In other words, weight loss from gastric bypass normalizes serum testosterone, and slightly increases serum PSA in some men. When you gain weight (especially a large amount of weight) it can artificially reduce your PSA value because it causes the amount of PSA in your blood to be diluted by the large amount of fluid in the blood vessels that occurs with weight gain (actually a larger blood volume - also known as “hemodilution”).

How great is this study?! This study has so many teaching implications that it is making my head spin! First of all, we all understand that when diet and exercise is ineffective in controlling cholesterol levels then it is arguably time to use a prescription medication. However, what is beginning to emerge is something fascinating, which is diet and exercise or lifestyle changes should be offered for multiple scenarios before more invasive measures. In other words, weight loss is arguably one
of the most effective methods for improving testosterone levels regardless of how overweight or obese the man. This is what this current and multiple past studies of weight loss are consistently demonstrating. Hey, where is that prescription testosterone replacement commercial that mentions this fact (sarcasm alert #546)??! I realize this was a surgical study and these patients regained their testosterone with significant weight loss, but it is also a study that provides an overall teaching tool for overweight and obese men and women. Additionally, the hemodilution impact on PSA is also fascinating and slightly disturbing. It makes one wonder what other blood tests are diluted by obesity?? Vitamin D? Cholesterol? Who knows? Obesity is associated with so many potentially negative health markers and consequences, but what gastric bypass allows is not only a life-saving treatment option for some, but an overt example of the importance of weight loss and/or maintaining a healthy weight and waist size throughout life (if possible). It’s not easy, but if you ever wanted motivational proof of what weight loss (or gain) can do to your body and hormones, just take a good look at this gastric bypass data or the recent Cleveland Clinic study in JAMA that showed a large percentage of patients no longer showing signs of their diabetes or needing medication, before even being discharged from the hospital, after gastric bypass surgery! In other words, right when the weight loss intervention begins from surgery or dieting or exercise the body responds favorably to this immediate change. How incredible is that!! (Note: multiple exclamation points again symbolize serious verve and amazement, tantamount or even greater than any positive drug or dietary supplement research I have read in my lifetime!!)). And, for women it is also clear that as you age weight gain causes such dramatic negative changes in female hormones and growth factors that one of the only lifestyle risk factors for breast cancer in post-menopausal women is weight gain and a lack of exercise. So, men, women, children, squirrels, dogs, cats….get out there and try to move more, eat less and maintain a healthy weight because your hormones will be very happy and will appreciate your efforts!

242) Weight training significantly lowers the risk of type- 2 diabetes, independent of aerobic exercise.

BOTTOM LINE:
Weight training and aerobic activity synergistically reduces the risk of diabetes to a level never observed before with any drug or dietary supplement, but we already knew that aerobic exercise reduces the risk of diabetes and now we know that weight lifting/resistance exercise also does…so, please do both every single week! PLEASE!

WHAT ELSE?
Weight training by itself has been theorized to reduce the risk of type-2 diabetes, but this has not been adequately studied over a long period of time in men. Interestingly, this was a prospective cohort study of over 32,000 men from the Health Professionals Follow-up Study from 1990 to 2008 (yes - all the participants were health care professionals). Questionnaires were utilized at the beginning of the study and then every 2-years (they followed these men for 18 years). The average body mass index (BMI) was 25 (very healthy weight), and 15% of this cohort had a family history of diabetes. Men lifting weights 1-59, 60-149, and 150+ minutes per week experienced a 12%, 25%, and 34% reduced risk of diabetes (P<0.001) compared to men not lifting weights. Men engaging in aerobic exercise for similar time intervals experienced a 7%, 31%, and 52% reduced risk (P<0.001). Men that were able to engage in aerobic exercise and weight training for at least 150 minutes each per week experienced the greatest reduction in diabetes (59%).

“Hello I am Hans and I am Franz and we are here to pump you up” (I loved that Saturday Night Live Skit). In reality, despite what these fabulous researchers implied in this current study, it seems that the largest and most realistic method to reduce the risk of type-2 diabetes is to be able to do at least 150+ minutes of aerobic exercise per week combined with weight lifting 2-3 times a week. I would love to be able to do 150+ minutes of aerobic activity and 150+ minutes of weight lifting, but I need to help feed my family, maintain a job, and live my life. In other words, the benefit observed in the group that maximizes weight lifting and aerobic activity were not much better compared to those that did a great deal of aerobic exercise and weight lifted only a few times a week. This is very good news for the “everything in moderation” crowd (aka Moyad and friends). However, make no mistake about what these results mean to you! Currently, there is no drug or supplement in the history of medicine that can reduce the risk of type-2 diabetes by 50-60% in healthy men (or women)! Also, the results were similarly profound in those with a family history of type-2 diabetes, especially if they engaged in aerobic activity. It is time to start getting excited about weight lifting or some type of resistance activity ASAP, because in my opinion too many individuals either don’t exercise or just do aerobic activity. It’s interesting that weight lifting just a few times a week definitely maintains and improves muscle mass which means it can improve energy levels, reduce fatigue, reduce joint pain, reduce the risk of osteoporosis and type-2 diabetes and…. (do you really want me to go on or are you already convinced?!). What does all this mean for me (ahhh, the most important question I can ask myself)!! I am going to put a poster of a young Arnold Schwarzenegger or Sylvester Stallone in my office (sans steroids) and weight lift at least twice a week for the next 12 months and after this time period I’m going to sell my own poster and put the Terminator and Rocky Balboa ones in the closet! Hey, I have to make money somehow with health care reform right around the corner! “Get your red hot Moyad muscle poster here! Only 2 for 200 dollars or 1 for 199 dollars to support my beer and retirement fund!”

www.paactusa.org • December 2012 / Prostate Cancer Communication 11
243) Vitamin D supplements in large dosages may increase testosterone levels? Maybe, but you need to know about this…


**BOTTOM LINE:**
Several new studies are suggesting that vitamin D dietary supplements in large dosages may either be increasing testosterone levels or are associated with some other kind of change that makes it seem as if they are increasing testosterone blood levels (regardless - you should be made aware of this). I don't believe right now that this applies to men on LHRH or hormone treatment for prostate cancer because the drug is so good at keeping testosterone low, but someone probably needs to study this thing further!

**WHAT ELSE?**
I suffered from many mini-midlife crisis moments in 2012 that involved ridiculous amounts of exercise daily to prove to myself that I may be closing in on 50 years old in a few years, but at least I feel and look like 49 years of age! The other day I was trying to read a restaurant menu and my wife said "try my reading glasses" (see I don't wear glasses or contacts). I said "No, they aren't going to help, it's just the lighting in this restaurant that makes it hard to read the menu." But when I put her glasses on everything seemed bigger and brighter (darn - my wife is always right, except when it came to naming our new dog…"Chauncey?")

Anyway, let's get back to this weird vitamin D story….I have written for years about the problem with doing anything in excess including taking large amounts of prescription pills, dietary supplements or tanning for hours on your back at a nudist camp in Phoenix, Arizona in July (ouch!). Everything comes with a catch! I have told readers for years that one way to naturally increase your vitamin D blood levels, for example, is to lose weight or eat more fish. And, I have warned that taking too many vitamin D supplements might come with a catch! Well, I didn't want to believe this research, but there is enough preliminary evidence right now to suggest that taking larger doses of vitamin D MIGHT (no one is sure) increase a man's testosterone level! In 2011, researchers reported the results of a rather small clinical trial of 50 men who took over 3000 IU of vitamin D daily compared to placebo for 1 year. What they appeared to find was that this dosage significantly increased blood levels of testosterone (from an average of 308 ng/dl to 386 ng/dl) as their vitamin D blood levels increased by 21 ng/ml! Several other recent laboratory and human studies have suggested that this may not be a crazy finding! In fact, a recent Harvard study suggested that this can occur up to a point and then vitamin D might no longer impact testosterone. How can this be possible? What is going on here? The vitamin D receptor and enzymes that impact vitamin D metabolism are found in the male reproductive tract including Leydig cells which are the testosterone producing cells found in the male testes. If you are physically active, lose weight, and eat better this could increase your vitamin D and testosterone levels a little bit, but the researchers in this study took these factors into account when they were doing this clinical trial. So, no one knows yet if vitamin D really increases testosterone levels or men who have an increase in testosterone also get an increase in vitamin D or possibly both? In the meantime, you should be aware of this crazy and wacky controversy. It's probably another reason you want to be very careful, especially if you have had prostate cancer and aren't looking for an increase in testosterone, but only to get enough vitamin D that will keep your bones healthy and not mega-dose. This is why I never wanted to push dosages more than 1000 IU per day until someone could show me that more is better. How many times have we heard in prostate cancer that more was better only to discover that less is more?! Beta-carotene supplements, calcium, selenium, vitamin E, folic acid…blah, blah, blah…look I love vitamin D supplements, but I do not love the idea of mega-dosing on vitamin D just yet, because vitamin D acts more like a hormone compared to a vitamin and I'm not sure what hormone I would want anyone mega-dosing on! There are 2 blood tests for vitamin D (25-OH vitamin D and 1,25-dihydroxy vitamin D) and you can always talk to your favorite doctor about whether or not you even need these blood tests to determine your levels and their potential impact on your bone health. Otherwise, I would love to see a 1-year study of women, men, or dogs (wait, that was redundant…there are some men that are “dogs” or are currently in the “dog house” if you know what I mean) that just do aerobic exercise daily and lift weights 2-3 times a week, compared to those that take mega-doses of calcium and vitamin D supplements, to see if there is any difference in bone health! Ooops - that study already happened and there was no difference! However, men who are at an increased risk of accelerated bone loss, such as men on LHRH or hormone treatment for prostate cancer do need to talk to their doctor about getting a vitamin D blood test (in my not so humble opinion). And, watch out for kidney stones because higher intakes of vitamin D can increase your risk. The largest study of mega-vitamin D supplements in 2012, to prevent the common cold (100,000 IU per month), found that it worked no better compared to a placebo. So, if you are one of those guys who wants to increase your testosterone with vitamin D, remember to be careful and try to lose weight first, because this should always be the first step! But you already knew I was going to say that you sly dog/man!

THAT’S ALL FOLKS!
See you in the SPRING, when I will write about many other serious issues and give timeless advice in the next newsletter such as; why it is never smart to leave really smelly doggy meaty treats in your front pockets of the pants you are wearing at the local kennel club or dog park (yes, I did this the other day in Chicago and let's just say I could hit all the high notes at the opera if you wanted me to, while 10 different dogs were leaping into my groin area until I figured out what was going on….ohhhhh the trauma! Who has some ice and Band Aids?!) HAPPY HOLIDAYS!!!
Several studies have now indicated that radiation dose escalation using the technique of stereotactic radiosurgery for prostate cancer (SBRT) can increase the chances of freedom from biochemical recurrence for early stage of disease. Hypofractionated delivery (i.e., small number of high-dosed radiation fractions) to treat localized prostate cancer is gaining in popularity. There are now increasing reports of non-invasive hypofractionated Stereotactic Body Radiation Therapy (SBRT) for prostate cancer that are showing improvement in local control. One older study by Madsen used a conventional linear accelerator to treat 40 early-stage prostate cancers with five fractions of 6.7 Gy at a short median follow-up, saw a 70% biochemical freedom from relapse and minimal GU and GI toxicity. At Stanford where they used a CyberKnife system to deliver radiation therapy at 7.25 Gy for a total of 36.25 Gy and five fractions with a median follow-up over five years showed few patients having biochemical failure or GI or GU toxicity. RTOG is now conducting a national study of SBRT for prostate cancer that randomizes patients between 5-7 high dose radiation fractions. The use of this type of radiation treatment is by no means the new standard of care but is increasingly accepted as a form of radiation treatment. The use of emerging radiation technology which allows pinpoint precision of the radiation beam has given radiation oncologists confidence about the ability to deliver the high dose to the prostate while sparing organs such as the bladder and rectum.

**TREATMENT TECHNIQUES**

Typically, Stereotactic Body Radiation Therapy is accomplished with a high energy linear accelerator using 6 MV, using IMRT technique and treatment planning. The other common treatment is using the robotically driven gantry of the CyberKnife. Fiducial markers are typically placed in the prostate using transrectal ultrasound guidance and treatment planning scans are performed one week after fiducial implantation, allowing stabilization of fiducials in the prostate. After CT imaging, the planning CT are often fused with MRI images referencing above fiducials and soft tissue structures. More recently there is the use of inflatable balloon devices that allow fixation of the prostate to avoid organ motion and also serve as a fiducial. At this point, physicians are using either a combination of fiducials plus balloon techniques and/or, either/or alone. Probably, the most data and patients treated with stereotactic radio surgery are with the use of the CyberKnife. The CyberKnife is a 6 MV linear accelerator mounted on a robotic arm with two orthogonal kV X-ray imagers that provide real-time image guidance throughout treatment. Typically, 150-200 non-coplanar are delivered in each treatment session and positioning and target tracking are accomplished by the CyberKnife’s image guiding system. More recently, the True Beam STx which is produced by Varian has similar patient positioning, target tracking systems and image guidance systems which allow registration of the Gold fiducials and Orthogonal X-rays to their location on the planning CT similar to CyberKnife. Based on that information, the machine corrects the accelerator’s aim to account for both translation and rotational movement of the prostate during treatment. Both systems have the delivery system to treat in this fashion. The imaging systems for both these machines are non gantry (floor or ceiling based) which is critical [i.e. the imaging system is separate from the treatment (gantry)]. That means that the imaging can occur before and during the actual treatment to track motion during treatment delivery. Both of these machines allow off gantry imaging, which means you can actually track organ motion during treatment (i.e., there’s an ability to image even during the actual treatment session).

The goal of hypofractionated or stereotactic radiation therapy for early stage prostate cancer is to achieve excellent improved disease control compared to standard treatments while decreasing toxicity. The most recent single institution data, using early PSA outcomes, using hypofractionated treatment appear promising. The potential benefits and risks of Stereotactic Techniques for prostate cancer were recently examined by ASTRO. The recommendation was that Stereotactic Body Radiation Therapy should not be attempted without some mechanism for optimization of mobilization and precise daily real time organ localization, which is possible with a CyberKnife accelerator or the very popular Novalis and Varian STx. In general, Stereotactic Therapy with long term data should show social and economic benefits to prostate cancer patients -- and hopefully, improvement in long term survival. The optimal patient population for this technique is early stage cancer patients, similar to those receiving traditional radiation and surgery. This treatment, more than traditional radiation or classic IMRT, requires a radiation oncologist with experience in this technique and the required radiation accelerator that that can provide real time imaging of the prostate during treatment delivery. Critics of this technique argue that this treatment will not be universally available due to the cost of the machines required to deliver this type of treatment accurately. Interestingly the new health care reforms have stimulated more interest in this technique. Bundling of radiation treatment reimbursement and the potential for reduced reimbursement has peaked interest in treatments that offer excellent local control with fewer treatments. Achieving the same local control with reduced treatment time allows for great patient satisfaction and quality of life, while creating a cost effective treatment approach.

Stereotactic Radiation Therapy is an emerging treatment approach for early-stage prostate carcinoma and has really been made possible due to technological advancements in radiation treatment delivery and simultaneous imaging systems. The early reported toxicity results and the PSA responses are encouraging. The possibility of this widespread acceptance of this treatment and the opportunity to receive excellent cure with less visits are encouraging. Additional follow-up will be required to better evaluate the potential toxicity and long term PSA outcomes.
As PAACT brings you information regarding the latest advances in prostate cancer treatment, such as this issue’s article on focal laser ablation of prostate tumors, remember that LAC-PAACT is here to help with any insurance or Medicare coverage issues that may arise as you seek to take advantage of the latest advanced cancer treatments. Frequently, in the early years of the use of new treatment options, coverage could be denied because the treatment was deemed experimental or coverage amounts would be set unreasonably low.

For example, in recent months we have helped strategize about how to build a case for coverage for laser ablation. For individual coverage disputes, we can help gather support for coverage and point you to resources, building on our past successes in fighting for coverage for advanced cancer treatments. We have a good base of knowledge of the types of information and evidence that results in favorable coverage decisions and reversals of coverage denials, both in the insurers’ internal administrative processes, the Medicare administrative process, and in the courts.

We can also give useful suggestions to your local lawyer and provide support and resources that may help convince your local lawyer to take your case and ultimately help your chances of winning. So, please do not hesitate to take advantage of these free services.

We also recently assisted in researching life insurance options for a prostate cancer survivor. Feel free to contact us regarding any coverage or other legal issues related to advanced cancer treatments. We want to help and need your help in identifying the areas of greatest need.

Also, we are always seeking volunteers to help with LAC-PAACT activities. Even if you are not a lawyer, you can volunteer if you are inclined to help with law related issues. Also, if you know any lawyers that would be sympathetic to our cause, please make us aware of them and them aware of LAC-PAACT. Please contact Greg Teufel regarding volunteer opportunities with LAC-PAACT.

If you have been denied coverage for an advanced cancer treatment, be sure to let us know and we will see if there is anything we can do to help.

**CONTACT LAC-PAACT**

If you have any questions or comments, or any suggestions about how LAC-PAACT can best serve your needs, please do not hesitate to contact me. The preferred method to contact me is via email at gteufel@eckertseamans.com. You can also call me at work at (412) 566-5977, home (412) 421-7123 or on my cell phone (412) 596-6316. You can also send me a letter at Eckert Seamans Cherin & Mellott, LLC, U.S. Steel Tower, 600 Grant St., 44th Fl., Pittsburgh, PA 15219 or a fax at (412) 566-6099.

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1. LAC-PAACT is PAACT’s legal advocacy committee. Despite the name of the committee, for various reasons, we generally cannot give you legal advice or act as your personal attorney. Please do not consider anything in this article as legal advice. If you want legal advice, we encourage you to consult a lawyer in your state, so that your specific situation and local laws can be considered.

2. Gregory H. Teufel, Esq. is a partner in the Litigation Department of Eckert Seamans Cherin & Mellott, LLC’s Pittsburgh office. The views expressed are those of Mr. Teufel personally and not of the firm.

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**FOCAL LASER ABLATION OF PROSTATE TUMORS**

**DAN SPERLING, MD • SPERLING PROSTATE CANCER CENTER • CARLSTADT, NJ • 855-577-6782**

Conventional prostate cancer treatment has historically been directed at the entire gland: surgical removal, radiation, or utilizing extreme heat or cold for total ablation. As such, whole-gland approaches are properly termed radical because the intent is to treat every cell, healthy or not, leaving no functional prostatic tissue at the culmination of treatment.

**AMBIVALENCE OVER RADICAL TREATMENT**

Radical treatment is predicated on the belief that prostate cancer (PCA) is a multifocal disease in which all PCA cells are equally presumed to be potentially dangerous. In this view, any viable prostatic tissue that remains after treatment could harbor microscopic disease, posing the risk of recurrence.

At the same time, radical treatments themselves pose inherent risks: post-treatment urinary, sexual and bowel morbidities (side effects). The recent debate over routine PSA screening of healthy men stems from a well-placed concern that men with a rising PSA are rushed into invasive, sight-blind needle biopsies that entail risks of infection, false negatives, and under-staging. A positive biopsy triggers an intense period of decision-making with whole-gland treatment often being the physician’s first recommendation.
Even so, professional opinion in the U.S. reveals ambivalence over the best course of action with regard to prostate cancer detection:

a) Don’t go looking for prostate cancer in the general population, as it may lead to over-treatment (Translation: trust that prostate cancer is mostly slow growing).

b) Don’t wait too long to detect prostate cancer, and don’t under-treat by doing anything less than a whole-gland modality (Translation: no prostate cancer can be trusted).

While the all-or-none slowly swings from one end to the other, focal therapy is rapidly presenting itself as a middle ground, energetically sought by patients and cautiously championed by a minority of clinicians. Advances in imaging technology now make it possible to clearly detect smaller and smaller tumors; and advances in targeted ablation enable effective ablation of even a small focus of disease.

CONDITIONS FOR FOCAL TREATMENT

Recent evidence from PCa pathology studies of surgically removed prostate glands suggests that not all PCa tumors are necessarily multifocal. Furthermore, as new imaging technologies allow superior differentiation of tissue within the gland over conventional gray scale ultrasound, the ability to target biopsy needles into areas of interest results in “… better characterization of the biopsy-proven cancer, to determine the higher-grade and greater-volume cancers as ‘important,’ as well as the lower-grade and smaller-volume cancers as ‘indolent.’” In other words, prostate malignancy is not necessarily multifocal, and not all tumors appear equally dangerous.

Furthermore, there is an increasing body of research and a growing number of specialty conferences dedicated to focal ablation. International experts are in dialogue to identify reasonable conditions for focal therapy. Criteria under consideration include: number of disease foci; size of index (primary or largest) lesion if more than one foci exist; tumor location; biopsy-demonstrated Gleason grade of all disease foci; psychological appropriateness of patient; informed consent; and commitment to follow-up protocol. Consensus is evolving on what constitutes clinically significant vs. clinically insignificant disease, that is, tumors that warrant treatment vs. those that are amenable to Active Surveillance, focal ablation, and monitoring through imaging and biological serum markers.

FOCAL LASER ABLATION

For over a decade, sub-radical PCa treatments have been quietly performed, most commonly by cryotherapy (freezing) and HIFU (High Intensity Focused Ultrasound). With the gradual increase in published data on focal treatment, confidence in patient selection and follow-up mechanisms is blossoming.

A promising new modality has been added to the arsenal used to eradicate tumors. MRI-guided Focal Laser Ablation (FLA) was originally developed to treat brain tumors, and has gained broad FDA approval to treat targets in soft tissue. Thus, it is being explored not only for brain, spine and prostate lesions, but also kidney and liver tumors.

Prostate FLA is not to be confused with laser-based vaporization treatments for urethral constriction due to benign prostatic enlargement, such as Green Light Laser. Prostate FLA is directed against malignancy. It uses light energy delivered by an applicator containing a cylindrical fiber placed at the core of the tumor. As light is delivered through the fiber, temperatures in the target area begin to rise, destroying the tumor and an accompanying margin of safety. The physics of laser ablation regarding optimum time and temperatures have been determined in animal studies; safety and efficacy have been demonstrated in early clinical trials with PCa patients.

Magnetic Resonance Imaging plays a key role in FLA, and the more powerful the magnet, the more precise, responsible and reliable the ablation. Until more powerful magnets become available, it is crucial that for ablation, a 3-Tesla (3T) magnet be used because it is simply faster and better than 1.5T or 2T magnets. Not only is the treatment planning and applicator placement informed by MRI guidance, MRI is also used to look for temperature-sensitive changes in the tissue. This allows the physician to see and monitor the heating process within the tissue while applying the laser, and to control how much energy is delivered. The procedure averages around two hours, and is done under a local prostate nerve block.
Advantages of laser ablation include: no general anesthesia; clarity of MRI guidance under a minimum 3-Tesla magnet, as I use; extremely rapid recovery, often same day; and no catheter. Most importantly, of the 55+ patients I have treated, all have returned to baseline urinary and sexual function within weeks, if not days.

**MY DUAL RATIONALE FOR LASER ABLATION**

From a clinical perspective, as I follow the literature and attend conferences on focal treatment of PCa, I am convinced that the data is compelling and justifies this approach for properly qualified patients. In my specialized imaging approach, multiparametric MRI allows clear definition of tumor foci, even as small as 4 mm. Under MRI guidance, I can place the laser probe into the core of the tumor, and ablate a zone that includes a global margin of safety. In addition, I require a diligent two-year follow up program of quarterly multiparametric imaging under a minimum 3-Tesla magnet, and a targeted biopsy into the ablation zone at six months.

Just as important, I turn to the world of patients for the other aspect of my rationale. They talk to me about the “trifecta” they are looking for: success in the bedroom, bathroom and cancer control. To date, I am happy that my patients experience the first two successes. I am expecting the laser to deliver equivalent cancer control with other focal modalities. For example, a recent prospective study out of the Urology Department of University College London demonstrated 92% freedom from clinically significant PCa after treatment with focal HIFU.\(^3\) It goes without saying that, just as with other current focal modalities, should cancer recur in the non-treated tissue, no treatment bridges have been burned. In such cases, patients would have the choice of
any treatment option that is appropriate for the stage and grade of recurrence, from radical to focal.

As clinical ambivalence filters into the patient world, here are some of the questions men and their loved ones struggle with:
1. Should I have an annual PSA blood test?
2. Should I rush to have a biopsy based on an elevated PSA?
3. Isn’t a TRUS biopsy “blind” to tissue differences, and will it miss a small tumor altogether?
4. If one or more needles contain cancer, how can I be sure the level of aggression has been reliably identified?
5. My doctor recommends not waiting too long to get treated. Can I trust him/her to tell me the truth about the side effects of radical treatment?
6. If I want to hold off on treatment, how can I be sure I’m a candidate for Active Surveillance?
7. If I hold off on treatment, is PSA sensitive enough to monitor tumor growth?
8. My doctor thinks I’m a candidate for focal treatment. How can I be sure I really am?

Just as the advent of image-guided targeted biopsy brings an accurate, minimalist, effective alternative to 12+ core TRUS biopsies, Focal Laser Ablation brings an accurate, minimalist, effective alternative to either doing nothing, or doing too much. FLA may not be the “silver bullet” patients are wishing for, but it resolves today’s dilemma between under-treatment and over-treatment for patients with demonstrated focal disease. It also interfaces beautifully with the kind of lifestyle changes, which I wholeheartedly endorse, that may reduce the possibility of recurrence, as demonstrated by the recent report of Dean Ornish, MD in this publication.1 For all these reasons, FLA contributes to the evolution of prostate cancer treatment.

YANA – YOU ARE NOT ALONE NOW

BY T.R. HERBERT

INTRODUCTION:

Terry Herbert, author of the popular A Strange Place (which we published in 6 parts - the previous 6 issues of CHOICES) also manages a website. His site deals with the issues men and their supporters face when diagnosed with prostate cancer. The site is YANA - You Are Not Alone Now at www.yananow.org and the aim of the site is clearly stated:

To provide comfort to any man diagnosed with prostate cancer, to offer thoughtful support to him and his family and to help them to decide how best to deal with the diagnosis by providing them with and guiding them to suitable information, being mindful at all times that it is the individual’s ultimate choice that the path he decides to follow is his own and that of his family, based on his particular circumstances.

Newly diagnosed men are invited to enter the site by hitting a “Don’t Panic” Button.

TERRY:

When I was diagnosed my immediate reaction was to ask, “What do I do now? Where can I get information?” Since this was 1996, the WWW was in its infancy. There were some useful sites already, but information was scattered – and very confusing. There seemed to be no consensus anywhere. Forums were coming into being and these turned out to be a very useful resource. Fellow prostate cancer people could exchange views and information and try between them to make sense of the confusion in the medical world. There were also sites where men told their stories about prostate cancer, but these stories were usually static and often ’old’ – they had all been written some time previously and were never updated.

This all led me to set up the Yana site, with the help of the Morrison’s - a couple in Sydney, Australia, who shared my views that there should be a site where newly diagnosed people could get basic information about prostate cancer written in plain language. We also felt that there would be a good deal of value in collecting the experiences of men who had been through the decision making process and had chosen their preferred therapy. We would ask these men if they would be prepared to respond to any e-mails from men seeking more information and act as Mentors, and to update their stories on a regular basis.

That section of the YANA - You Are Not Alone Now site has turned out to be very well supported and very popular with prostate cancer people. There were almost 250,000 visitors to the site last year to read the contributions from more than 1,100 men or their partners. While there is no way I can monitor the traffic between the Yana men, I am told that when a man posts initially, seeking information, he may get between 30 and 40 men emailing him with advice and offers of help.

All of the current therapies are covered and the database is searchable by a number of criteria, so men can look for the stories of other men whose diagnosis, age, even place of residence might match theirs. All they have to do is simply go to Survivor Stories at http://www.yananow.org/query_stories.php and choose the relevant criteria. Most of the stories have been updated within the last 12 months.
Although I believe that there is tremendous value in the reading of other people’s experiences with prostate cancer, I always caution that “The accounts on the site are based on information received from our contributors and they may not be completely accurate. I hope they may provide visitors with an insight into how others have dealt with the issues that any man diagnosed with prostate cancer faces. The stories are provided for information only, and the index shows a brief summary of what others have done. They should not be used for making individual treatment decisions. Please be aware that there is much more to the decision making process. As Dr. Stephen Strum says ‘Assess status before determining strategy.’”

A recent example of how a newly diagnosed man serves as a pointer to how the site can help. He posted a brief note on one of the Forums. He said he had been diagnosed with a Gleason Score of 9 and that he wanted surgery, but his doctor said he must have radiation. He posed two questions, “Why could he not have surgery? Was there anyone on the list (which has 1200 members) who had chosen surgery with a GS 9 diagnosis?”

He got a number of good responses to the first question from the veterans on the List, who explained there was more to the diagnosis than just the Gleason Score, he should get a second opinion from a recognized pathologist, and that there was limited support for de-bulking, etc., etc. But no one responded to his second question.

I was able to tell him to go to the Yana site and search for men diagnosed with Gleason Scores of 9 who had chosen surgery. I told him he could read the 31 stories that were there and I also suggested that because GS 8 diagnoses and GS 10 diagnoses are often put in the same cohort for studies, he might want to read the 40 GS 8 and five GS 10 stories where men had chosen surgery. So he had almost 80 stories from which to gather information. I also told him he might want to read about how men who had not chosen surgery fared as well. To reinforce the fact that a GS 9 diagnosis was a potentially dangerous one, I also drew his attention to the stories of those men who had, sadly, passed on.

DEBUT OF DOCTOR SNUFFY MYERS’ NEW BOOK

PROSTATE CANCER & DIET

The Prostate Forum family is delighted to announce the publication of The New Prostate Cancer Nutrition Book. A revamped and expanded version of the popular Eating Your Way to Better Health, offers an easily adoptable healthy living plan that will help:

- Slow the rate at which prostate cancer grows in current patients
- Prevent prostate cancer from occurring in men who haven’t been diagnosed
- Prevent heart disease
- Prevent high blood pressure
- Prevent diabetes
- Prevent Alzheimer’s disease and
- Prevent colon cancer

The comprehensive opening segments of The New Prostate Cancer Nutrition Guide cover the basics of Dr. Myers’ anti-prostate cancer diet as well as the ABC’s of stocking and running a healthy kitchen. The recipes that followed prostate-healthy diet principles with his wife and sister-in-law’s Mediterranean family traditions and the haute California cuisine techniques his daughter learned over the last two decades in restaurants and catering companies of San Francisco and Napa Valley.

As an integral component of Dr. Myers’ prostate cancer growth arrest program, The New Prostate Cancer Nutrition Book is a must-read for any man whether he’s interested in prevention, has just been diagnosed, or is facing recurrent or even advanced disease.

In addition to hundreds of recipes you’ll find info on:

- Taking Ownership of Your Health
- Evidence-Based Nutrition
- Customizing Diet
- Salt
- Antioxidants
- Omega-3 Fatty Acids
- Grilling Meat
- Science Behind The Mediterranean Diet
- Exercise
- What You Should Eat
- Cooking 101
- Traditional Soy Products

To read the opening chapters, or order your own copy, go to www.prostateforum.com
Advocates from all around the world are now working with each other to end Prostate Cancer. The Global Prostate Cancer Alliance launched in February, 2012, is a patient focused nonprofit organization, with the goal of fostering opportunities for conversation and collaboration between national and regional prostate cancer health care providers, professional organizations and patient advocates from all over the world.

As of this month, 24 organizations representing 21 countries form the core of the Global Prostate Cancer Alliance. Membership is free and open to all prostate cancer patient facing organizations and individual prostate cancer advocates. Organizations can fill out a simple form at the prostatecanceralliance.org website.

The Global Prostate Cancer Alliance is founded on four pillars of thought:

1. Problems facing patients may be too big and complex for any one organization to solve.
2. By working collaboratively, doctors and advocates can amplify the patient voice to advance common issues.
3. Working together leads to innovative ideas and new partnerships.
4. Doctors and advocates see great value in sharing ideas and experiences and they want this to occur more often.

We as advocates believe that diversity is a compelling source of creativity and innovation towards improving the prostate cancer patient experience and optimizing patient outcomes.

We understand that advocacy drives awareness and implementation. We hope our conversations lead us to utilize developed systems, understand lesser developed systems and reframe education, training and access to treatment and care.

The Global Prostate Cancer Alliance enriches the collaborative environment by leveraging new technology and the internet. New technology also helps us operate as a low cost, self-sustaining nonprofit organization. Total funding to date has been from individual contributors and is managed by the United States based national nonprofit, Malecare Cancer Support, with assistance from some of our European partners.

The Global Prostate Cancer Alliance is not in any way a substitute for the work or structure of any other organization or program. The Global Prostate Cancer Alliance picks up where previous attempts at cross border conversations have failed. We have learned from those organizations prior mistakes, and believe that the Global Prostate Cancer Alliance is now in place, working and durable. Indeed, in our first six months, we have assisted in the creation of two new national prostate cancer organizations, in Aruba and Iceland, and have begun work on the first issue of our bi-annual newsletter.

The Global Prostate Cancer Alliance presents powerful opportunities for helping men around the world. You can follow the work of the Global Prostate Cancer Alliance by signing up for its newsletter at: www.prostatecanceralliance.org.
PAACT MEMBERS and non-members may contact PAACT headquarters directly (616-453-1477) to speak with our counselor (Richard H Profit, Jr.) for a free unlimited medical consultation regarding DIAGNOSIS, EVALUATION, DETECTION AND TREATMENT options for prostate cancer. Mr. Profit has worked with doctors in all aspects of prostate cancer treatment for over 13 years.
ACKNOWLEDGEMENTS OF CONTRIBUTIONS

July 1, 2012 Through September 30, 2012

(YOUR NAME WILL APPEAR BELOW IF WE DEPOSITED YOUR DONATION BETWEEN THE ABOVE DATES)

Memorial Contributions

In Loving Memory of Lloyd J Ney, Sr. Founder of PAACT, INC., Grand Rapids, MI

Dr. Bob Leibowitz
Robert M Brewer

In Loving Memory of Chris Kellogg
Jacques Landau

In Loving Memory of My Loving Wife Lois Walter
Irven Walter

In Loving Memory of Chester Baranczyk
David Baranczyk
Contributions
($1,000 and Above)
Anonymous
Hayden, Jerry
Julian Braun Charitable Trust

Contributions
($500 to $999)
Leibowitz, Dr. Bob

Patron Membership
($100 to $499)
Altiere, Elmer
Bonanno, Charles
Campbell, Bruce
Carncross, Gordon
Clauser, Ray
Clem, K Lee
Dibenedetto, Mario
Foster, Donna
Geissinger, Lloyd
Gilbert, Richard
Haines, Collins
Jacobs, Jerome
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Monnig, Hugo
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Rosenberg, Harry
Ryan, William
Scalley, Edward
Stevens, Leonard
Talkovsky, Manuel
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Walter, Sol

PAACT Membership
($50 to $99)
Babcock, Charles
Baks, Ronald
Beeney, Craig
Bekemeyer, George
Bevan, Anthony
Bienefeld, Larry
Black, William
Block, Louis

Rauscher, John
Rez, James
Richardson, Shelley
Robb, Walter
Rubinstein, Jack
Sheldon, Lewis
Shere, Charles
Shuman, Edwin
Sloan, Raymond
Smith, David
Speek, Peter
Spriggs, Mordecai
Theis, Douglas
Vinciguerra, Art
Vnik, Abe
Williams, Sue
Winer, Arthur

Miscellaneous Contributions
(less than $50)
Anonymous
Arne, Vernon
Bensmiller, Alfred
Bryant, Randall
Clarke, Vincent
Cunningham, Michael
Grafing, Jack
Grill, Leopold
Jackiewicz, William
Johnson, Donald
Kapso, Howard
Kennedy, James
Kerrigan, Charles
Lanza, Vito
Milligan, Jay
Mucci, Kenneth
Pollick, Albert
Pope, Larry
Reitman, Paul
Sandstrom, Carl
Schelling, Dennis
Siegelman, Philip
Sizer, John
Smith, Norman
Stanley, William

Stewart, Charles
Tyler, Alfonso
Willman, Lane
Woolf, Charles

Contributions by State & Province
Alabama...................1
Arizona.....................2
California...............21
Colorado...............5
Connecticut.......2
Delaware................1
Florida................14
Georgia................2
Illinois..............6
Indiana...............1
Iowa................2
Kentucky.............2
Maryland.............1
Massachusetts......2
Michigan..........10
Montana.............2
Nebraska..........1
New Hampshire.....2
New Jersey.......9
New Mexico.......2
New York........11
N Carolina.........4
Ohio...............3
Oregon............1
Pennsylvania.....3
S Carolina.......1
Texas..............3
Utah.............1
Virginia........3
Washington.....3
West Virginia.....1
Wisconsin.........3
Australia.......1
Canada........2
Isle of Man.......1
## Financial Summary Report
(January 1, 2012 through September 30, 2012)

### Balance on Hand December 31, 2011

#### Revenues Received -
- Membership Contributions: $41,868.12
- Memorial Income: $4,165.00
- Trusts & Bequests: $40,117.97
- Investment Income: $40,810.46
- Reimbursed Expenses: $43.55
- **Total Revenues:** $127,005.10

#### Total Balance on Hand and Revenues
- **Total:** $1,772,724.29

### Expenditures -
- Investment Withholding: $3.99
- Employee Wages: $96,708.56
- Payroll Taxes: $8,010.95
- Insurance (Health, House, Workman’s Compensation): $33,998.50
- Outside Services, Labor: $4,946.04
- Rent: $11,700.00
- Meals, Motel, and Transportation: $5,703.98
- Auto Expense: $928.00
- Printing: $18,876.56
- Postage and Delivery: $20,321.01
- Telephone: $2,409.48
- Service Plans/Licenses & Permits: $1318.00
- Program Expense-Conference Exhibit Fees: $1,170.11
- Office and Computer Supplies: $62.00
- Utilities - Refuse: $5.08
- Repairs (Building, Equipment): $288.80
- Miscellaneous: $211,550.66
- **Total Expenditures:** $211,550.66

### Balance on Hand September 30, 2012
- **Total:** $1,561,173.63

### Assets:
- Checking Account: $3,959.38
- Petty Cash: $50.00
- Savings Account: $29.63
- Certificates of Deposit, Stocks, and Bonds: $1,350,418.30
- Money Market Funds: $53,820.34
- Equipment: $2,144.92
- **Total Assets:** $1,417,422.57

### Net Assets:
- **Total:** $261,651.40

### Foundation Fund Balance:
- **Total:** $261,651.40
PAACT MEMBERSHIP FORM

Name: ___________________________ Birthdate: / /
Address: ____________________________________________________________
City: ____________________________ St/Province: __________ Postal Code: __________
Telephone HM: __________ WK: __________ Fax: __________
E-Mail: ____________________________________________________________
Other: ____________________________________________________________

ANNUAL MEMBERSHIP CLASSIFICATION

☐ Patient ................................................ $55  ☐ Donor ................................................ $500
☐ Advocate ........................................... $55  ☐ Sponsor ...........................................$1000
☐ Professional ..................................... $100  ☐ Corporate ......................................$5000
☐ Other ................................ .......$__________  ☐ Anonymous ...................... $__________
☐ Include me as a PAACT member, although I currently cannot contribute

Tribute gifts support the daily operations of PAACT, Inc., by furnishing PC patients, doctors and advocates with the latest information available on the methods of detection, diagnostic procedures, evaluation and treatments for prostate cancer. We also participate in matching gift programs and United Way. For more information contact us at (616) 453-1477.

☐ Check Enclosed     ☐ Charge to my credit card (below): ☐ MC ☐ VISA ☐ Discover ☐ American Express

Enclosed is $ __________________________, In memory of Lloyd J. Ney, Sr.
Enclosed is $ __________________________, for PAACT’s general operation expenses.
Enclosed is $ __________________________, I wish to remain anonymous.

In Memory of ____________________________________________________________

Please send acknowledgement card to:
Name ____________________________________________________________
Address ____________________________________________________________
City_________________________ State ______ Zip________________________
Account Number: __________________________ Amount $ __________________
Signature: __________________________ Expiration Date: __________________