Manitoba Prostate Cancer SUPPORT GROUP

Newsletter

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Interpreting a Pathology Report

By Dr. Jonathan Epstein, Pathologist, Johns Hopkins University

Patients should personally review their pathology report. The report is an expert description of the information obtained from the needle biopsy. Typically, a copy of the report can be provided by the treating physician. Although a urologist will typically be the person who presents the results of the biopsy to the patient, the official pathology report is generated by a pathologist—such as myself—a specialized physician with many years of training in the study and diagnosis of specimens removed by surgery or by needle biopsy.

The major components communicated in the report are the Gleason grade, which is a measure of how aggressive the tumor looks under the microscope, and the quantity of cancer. The quantity is judged two ways: The number of biopsy cores containing cancer (assuming, as is usually the case, that the biopsy was performed using standard random techniques). For example, if only 2 of 12 cores contain small amounts of cancer, the quantity of cancer (the presumed size of the tumor) would be small. At the other end of the spectrum consider the situation where 10 of the 12 cores contain cancer and each core is more than 50% replaced with cancer. In this case, the presumed size of the tumor would be large. So the quantity of the cancer within the prostate, as judged by the needle biopsy, is based both on how many cores contain cancer and the extent of the cancer replacing normal gland tissue within each single core.

(Continued on page 2)

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Thanks!

Next meeting: April 21, 2016
Jennifer McLaren, Consultant, Reh-Fit Centre
Topic: Fitness and Prostate Cancer
Location: Wellness Centre, Room 4
Seven Oaks General Hospital
Time: 7:00 General Discussion
8:00 Guest Speaker

SHARING IS CARING

The Manitoba Prostate Cancer Support Group does not recommend treatment modalities, medications, or physicians.

MPCSG – active since 1992.

Thought of The Day

I've just been diagnosed with NCD.....no can do!

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The field of prostate pathology is immense and practically impossible to compress into a single article so to convey the basic elements of prostate pathology, the most efficient and concise approach is to address thirteen common questions I frequently encounter:

1. What is the "Gleason grade" or "Gleason score?" What do the numbers in the Gleason score mean, for example, 3+4=7 or 3+3=6?

The Gleason grading system assigns a pattern to the cancer cells depending on their appearance under the microscope, using numbers from 1 to 5. However, it is important to realize that in these modern times that patterns 1 and 2 are only used very rarely. Therefore, on a needle biopsy, the pathologist almost always reports the grade as pattern 3, 4 or 5. A higher number is assigned by the pathologist when the appearance of the cancer cells deviates more from visual appearance of normal prostate gland tissue. For example: If the cancerous tissue looks much like normal prostate tissue, it is pattern 1. If the cancer cells and their growth patterns look very abnormal, it is pattern 5. Patterns 2 through 4 have features in between these extremes.

Since prostate cancers in a single patient often have areas with different grades, the first pattern, when assigning a "score," is the most common pattern seen after review of all the biopsy specimens, i.e., the pattern that makes up most of the cancer seen in the biopsy. The 2nd pattern that is assigned is the one showing the next most common pattern. These two different grades are then added together to yield the Gleason score (also called the Gleason grade). For example, if the Gleason score is written as "3+4=7", it means most of the tumor is primarily pattern 3 and to a lesser amount pattern 4. These two numbers are then added together to create a Gleason score of 7. If the tumor has only one pattern throughout the whole tumor, the same pattern is counted twice in order to keep the grade in scale. For example, a biopsy core that is involved by only Gleason pattern 4 would have a Gleason score of 4+4=8.

2. What does a Gleason score of 6 mean?

Table 1: Risk of PSA Relapse 5 Years Following Radical Prostatectomy, Based on Various Biopsy Gleason Scores.

Group 1	Gleason Score 6	5%
Group 2	Gleason Score 3+4=7	17%
Group 3	Gleason Score 4+3=7	35%
Group 4	Gleason Score 4+4=8	37%
Group 5	Gleason Score 9-10	76%

Gleason scores 2-5 tumors are very rare because they cannot be identified accurately on needle biopsy. So even though it is technically correct to say that the Gleason score can range from 2-10 suggesting that 6 would be "in the middle," in actual practice, the Gleason score only ranges between 6 and 10. Therefore, a Gleason 6 actually represents the lowest grade (the most favorable) possible. Assigning the number 6 can lead to potential misinterpretation by patients. For example, Gleason score 6 cancer is almost always cured (see Table 1). Gleason score 6 cancers are so indolent that many men with these tumors are candidates for active surveillance. For this reason, I have proposed a modification of the Gleason score that more accurately transmits the favorable message about Gleason 6. On the other hand, most men with higher grade tumors will be recommended to undergo some type of treatment. Question #5 below expounds further on this proposal to revamp the way we report Gleason score. Full details of the proposal have been published in the medical journal called European Urology in September 2015. (Ed. note: to view Dr. Epstein's article, go to www.europeanurology.com and click on: A contemporary prostate grading system: a validated alternative to the Gleason score).

3. What does it mean to have a Gleason score of 7?

A Gleason score of 7 can be made up of either 3+4=7 or 4+3=7, depending on whether the pattern 3 or pattern 4 is predominant. There is a big difference between these two grades. Table 1 shows the substantial difference in five-year cure rates. The biggest therapeutic difference between these grades is that more aggressive radiation therapy protocols are often given for Gleason score 4+3=7 and above.

4. What does it mean to have Gleason scores of 8-10?

Although Gleason score 8 cancers are aggressive, they are not as concerning as Gleason scores 9-10 tumors (Table 1). However, some patients with Gleason scores 9-10 patients can still be cured.

5. What is the best way to put all these different Gleason scores into a clinical context?

The best and simplest way to get a sense of what the Gleason score is predicting about the future behavior of the tumor, is by grouping them from 1 to 5 with group 1 having the best outlook and 5 having the worst. For example, Table 1 shows how these Gleason groupings predict cure rates with surgical treatment at a center of excellence. As can be seen, cure rates decline as the group number increases.

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6. What does it mean when there are different biopsy cores with different Gleason scores?

Different cores may sample different areas of the same tumor, or the cores may sample different tumors in the prostate (it is fairly common for men to have more than one tumor). Because the grade may vary within the same tumor or between different tumors, different cores taken from the prostate may have different Gleason scores. The highest Gleason score observed in a particular patient is selected for predicting prognosis and deciding therapy.

7. Can the Gleason score from a random biopsy really tell what the cancer grade is in the entire prostate?

The Gleason score on biopsy usually reflects the cancer's true grade. However, in about 20% of cases, the biopsy underestimates the true grade, resulting in under-grading. This can occur because randomly directed biopsy needles occasionally miss a higher grade (more aggressive) area of the cancer. Under-grading is statistically more likely to occur in men with: 1) larger tumors, 2) higher PSA levels, and 3) smaller prostates.

Somewhat less commonly, the true grade of the tumor is lower than what is seen on the biopsy, resulting in over-grading. For example, studies show that 16% of cases with a Gleason score of 3+4=7 on biopsy, will end up having Gleason score 6 when the surgically removed prostate is examined. Discrepancies between the biopsy Gleason and the final Gleason after surgery may be caused by inaccurate over-grading of the biopsy specimen by an inexperienced pathologist, or because the actual quantity of pattern 4 originally detected in the biopsy core turned out to be so small that it could not be found by the pathologist who examines the surgically removed prostate.

8. What does it mean if my biopsy mentions that there is "perineural invasion"?

"Perineural invasion" means that cancer cells were seen surrounding or tracking along a nerve fiber within the prostate. When this is found on a biopsy, it means that there is a slightly higher chance that the cancer has spread along the nerves outside the prostate. Still, perineural invasion doesn't necessarily mean that the cancer has spread outside the gland. Actually, other factors, such as the Gleason score and amount of cancer in the cores, are better indicators of cancer spread outside the gland. And even when tumor has microscopically spread out of the edge of the prostate, the majority of men are still cured.

9. What does it mean if, in addition to cancer, my biopsy report also says "high-grade prostatic intraepithelial neoplasia" or "high-grade PIN"?

"High-grade prostatic intraepithelial neoplasia" (or "high-grade PIN") is a pre-cancer of the prostate. It has no importance whatsoever in someone who already has been diagnosed with cancer. In this case, the word "high-grade" refers to prostatic intraepithelial neoplasia and not the cancer, so it has nothing to do with the Gleason score or how aggressive the cancer is.

10. What does it mean if my biopsy report also says "atrophy" or "adenosis" or "atypical adenomatous hyperplasia" or "seminal vesicle?"

All of these terms are things that the pathologist sees under the microscope that are benign (not cancer). They are mentioned merely for completeness in the report because sometimes, to a physician with a less experienced eye, they might be misinterpreted as cancer. They are of no concern for the patient.

11. What does it mean if in addition to cancer my biopsy report also says "atypical glands" or "atypical small acinar proliferation (ASAP)" or "glandular atypia" or "atypical glandular proliferation?"

All these terms mean that the pathologist saw something under the microscope that suggests cancer may be present. However, the actual evidence for cancer is insufficient to be conclusive. Finding any of these is of no relevance to the overall outlook if cancer has already been diagnosed in another part of the biopsy.

12. How do pathologists measure the amount of cancer in the core?

There are multiple techniques used to quantify the amount of cancer found on needle biopsy. The most common are: (a) number of positive cores, (b) total millimeters of cancer amongst all cores, (c) percentage of each core occupied by cancer, and (d) total percent of cancer in the entire specimen. All of these different methods of measuring cancer volume on needle biopsy are tightly related with each other, such that it is difficult to demonstrate the superiority of one technique of measuring over the other. In general, a report which has the number of

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positive cores along with one of the other measurements is sufficient.

13. How can I be sure that the Gleason grade in the report is accurate?

Assigning the correct Gleason score is a skill just like any other that is developed through experience and practice. It is often prudent to have the biopsy material referred for a second opinion to confirm the accuracy of the initial Gleason score that was assigned.

Concluding Thoughts

When facing a monstrous behemoth like "cancer," the most important question to ask is "What kind of cancer am I dealing with?" With the currently available medical knowledge and technology, there can be no excuse for not knowing the exact grade of the cancer in order to make an informed treatment (or non-treatment) decision. Men facing a new diagnosis of prostate cancer should carefully scrutinize the pathology report and reflect carefully on its implications before rushing or being urged to make hasty treatment decisions.

Source: Prostate Cancer Research Institute – Feb. 2016

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An open letter to Vanessa Stewart and Nicole Zajac, grade 12 students at J. H. Bruns Collegiate

Hello Vanessa and Nicole,

=> We thank you for starting HERO (Helping Everyone Reach Out);

=> We thank you for all your time, effort and volunteer work;

=> We thank you for the leadership you have shown in your school and

=> We thank you for raising funds and making the donation to our Support Group.

It is with much appreciation and gratitude that we accept your kind donation.

We also wish to recognize teacher, Angela Kaisser, for her guidance and support to the students in this program.

Kindest regards,

June Sprott, Board Member & Newsletter Chair

Manitoba Prostate Cancer Support Group

www.manpros.org

Early Prostate Cancer Cases Fall Along With Screening

Fewer men are being screened for prostate cancer, and fewer early-stage cases are being detected, according to two studies published Tuesday in The Journal of the American Medical Association.

The number of cases has dropped not because the disease is becoming less common but because there is less effort to find it, the researchers said.

The declines in both screening and incidence "could have significant public health implications," the authors of one of the studies wrote, but they added that it was too soon to tell whether the changes would affect death rates from the disease.

About 220,800 new cases of prostate cancer are expected in 2015, along with 27,540 deaths, according to the American Cancer Society.

Screening for prostate cancer, like mammography for breast cancer, has long been a subject of intense debate, with advocates insisting that it saves lives and detractors arguing that it leads to too much unnecessary treatment.

The decrease in testing is almost certainly a result of a recommendation against screening made in 2012 by the United States Preventive Services Task Force. The task force, an independent panel of experts picked by the government, found that risks outweighed the benefits of routine blood tests for prostate-specific antigen, or PSA, a protein associated with prostate cancer.

Because prostate cancer often grows slowly, the panel said, screening finds many tumors that might never have harmed the patient. But they are treated anyway. As a result, it concluded, testing saves few lives and leads too many men into unneeded surgery or radiation, which often leaves them impotent and incontinent.

An editorial accompanying the articles, by Dr. David F. Penson, the chairman of urologic surgery at Vanderbilt University Medical Center, acknowledged that too much screening could do harm but suggested that the pendulum had swung too far the other way.

Rather than issuing a blanket recommendation against screening, Dr. Penson said, it would be better to "screen smarter" by testing most men less often and focusing more on those at high risk.

One of the new studies, by researchers from the American Cancer Society, found that early-stage diagnoses of prostate cancer per 100,000 men age 50 and older dropped to 416.2 in 2012, from 540.8 cases in 2008, with the biggest decrease occurring from 2011 to 2012 — after a draft of the task force guidelines was released in October 2011. The authors estimated that the total number of diagnoses decreased to 180,043 in 2012 from 213,562 in 2011 — a difference of 33,519 cases. That difference may indicate that many men were spared needless treatment — exactly what the task force had hoped to accomplish with its guidelines. But the authors also said, "Less screening or discontinuing screening may lead to missed opportunities for detecting biologically important lesions at an early stage and preventing deaths from prostate cancer."

The percentage of men 50 and older who reported PSA screening in the previous 12 months dropped to 30.8 percent in 2013, from 37.8 percent in 2010. Although the study could not prove that the drop in screening caused the drop in diagnoses, the authors said it was the most plausible explanation. The findings were based on data from cancer registries and national surveys that asked men about prostate screening.

A second study, by researchers from several medical centers, also found a significant decline in PSA testing after the 2012 task force recommendations. "With PSA testing, we often detect cancers that don't need to be treated — clinically indolent, meaningless cancers," Dr. Penson said in an interview. "It is true that more men die with prostate cancer than of it."

He said the recognition that many prostate cancers were indolent, or slow-growing, and not deadly had led to major changes in medical practice, making doctors less inclined to automatically operate if cancer is found.

The cancer society recommends that men discuss screening with their doctors to decide whether they should have it.

Some men, told the pros and cons, decide against having any screening. Others opt for the testing, and if cancer is found, want it removed even though it might not be deadly. But some who choose to be tested prefer another approach if cancer is found: "active surveillance," which may involve repeated PSA tests and a biopsy every other year to find out if the cancer is growing and becoming more aggressive.

Dr. James A. Eastham, the chief of the urology service at Memorial Sloan Kettering Cancer Center in New York, said two long-term studies had shown that this type of monitoring was a reasonable way to determine which patients needed treatment. Most patients considered low-risk turned out to have very low rates of cancer progression. "Some do

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go on to treatment eventually, but the majority do not die of prostate cancer," Dr. Eastham said. About 2 percent do die from the disease, he added. And he said that even with the best possible active surveillance, some patients will still be over treated.

Dr. Eastham and Dr. Penson said there had been two extremes in testing, neither satisfactory. First, doctors screened all men over 50 with PSA tests and operated on all cancers. But now they may be heading toward the other extreme of not screening anybody.

Both doctors said that screening should be based on a man's preferences and individual risk, and that better ways to screen were needed, methods that would let doctors zero in on the cancers that needed to be treated and could be cured. Promising new imaging techniques and blood tests for biomarkers that would reveal cancer are in the works, they said.

"But they're not ready for prime time, so we're stuck with the hand we've been dealt, the PSA test, which is an imperfect test," Dr. Penson said. "But we can do a better job with it."

Source: New York Times
November 2015

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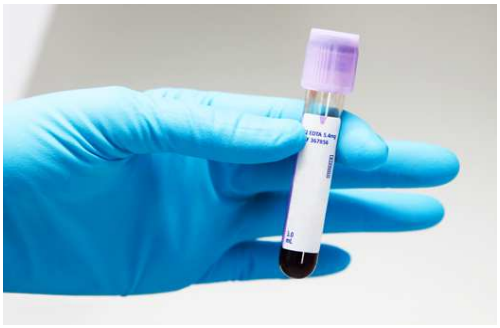
Detection - PSA & DRE

The earlier that prostate cancer is detected, the easier it is to treat and the greater the chance for a successful treatment. Unfortunately, prostate cancer usually shows no symptoms until it reaches an advanced stage. Early detection generally includes both a prostate specific antigen (PSA) blood test and a digital rectal examination (DRE).

Prostate-specific antigen is a substance that is normally produced by the prostate gland, and a small amount of PSA occurs naturally in the blood. To help ensure an accurate reading, the blood draw for the PSA test must be done prior to the DRE to avoid any stimulation of the prostate gland, which can increase the PSA level. Similarly, ejaculation within 48 hours prior to a man's blood draw can result in an elevated level of PSA.

The DRE involves a physician inserting a lubricated, gloved finger into the rectum and pressing on the anterior wall of the prostate to feel for abnormalities or nodules. This test is simple, safe, and only takes about 10 seconds to complete, with minimal discomfort. The prostate gland lies in front of the rectum, so only the back wall of the prostate can be checked during a DRE, which enables a physician to feel the size, shape, and texture of the prostate. It's possible to have prostate cancer without having a palpable ("feelable") tumor, and palpable nodules or abnormalities are not always an indication of prostate cancer.



Without the PSA test, tumors located elsewhere in the prostate gland could go undetected by the DRE. In addition to potentially indicating prostate cancer, an elevated PSA level can be the result of prostatitis (inflammation of the prostate) or benign prostatic hyperplasia (BPH), which is enlargement of the prostate. The PSA test has become controversial because it lacks precision in specifically identifying early prostate cancers, which can result in unnecessary diagnostic tests and treatments, some with potentially significant side effects. However, a PSA test is the first step for detecting prostate cancer at an early stage when the disease can be treated most effectively.

If results from the PSA test and DRE indicate the possibility of prostate cancer, additional testing will be necessary, which may include a biopsy of prostate tissue. If the diagnosis is prostate cancer, invest the time and energy necessary to learn about the disease and understand the specifics of the diagnosis. Empower yourself with the knowledge you will need to take control of managing the disease.

Inconsistent messages in the prostate cancer community about the value of PSA testing have understandably led to confusion. Our concern is that it's causing some men to forego testing for early detection resulting in physicians seeing an increase in the number of patients with prostate cancer initially diagnosed at an advanced stage.

While no one wants to be over-treated or undertreated, every man has a right to know if he has cancer. We believe that PSA testing is a personal decision and is the responsibility of each man—not each man's physician. All men should be educated on the pros and cons of PSA testing to determine if and when PSA testing is appropriate for him.

Source: www.ustoo.org/Detection-PSA-And-DRE

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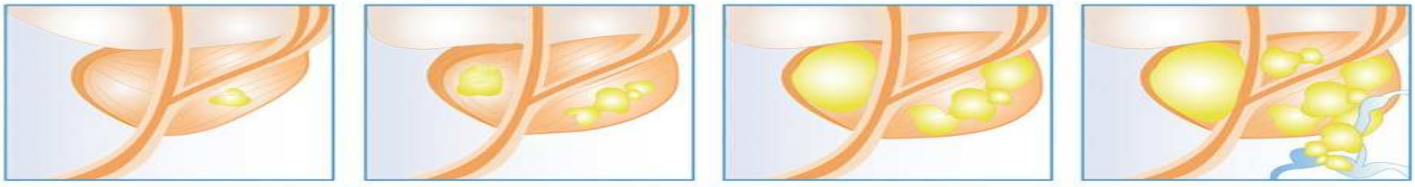
Staging of Prostate Cancer

Staging is a medical term for the process of determining if a known cancer is still confined within the organ of origin (the prostate) where it is curable, or if it has spread outside of the prostate gland where it is probably not curable, but treatable. It is a system for classifying patients with malignant disease according to the extent and severity of disease, and thereby helping to determine the appropriate therapy. The Tumor Nodes Metastasis (TNM) staging system ranges from T1a through T4b. See the table below.

TNM		Description
T1		**Cancer present, but not detectable in DRE or on imaging**
	T1a	Found incidentally, Less than 5 percent of sample malignant and low-grade
	T1b	Found incidentally, More than 5 percent of sample malignant and/or not low-grade
	T1c	PSA elevated, not palpable, found in needle biopsy
T2		**Tumor is palpable in DRE; organ confined**
	T2a	Confined to half or less than half on one of the prostate's two lobes
	T2b	Confined to more than one half of one lobe of gland but not both
	T2c	The tumor is in both lobes but within the prostatic capsule
T3		**Locally extensive cancer**
	T3a	Penetration of prostate capsule on one or both sides
	T3b	Penetration of prostate capsule with seminal vesicle involvement
T4		**Tumor extension to adjacent organs**
	T4a	Cancer that has invaded the bladder neck and/or rectum and/or external urinary sphincter
	T4b	Cancer that involves other areas near the prostate
N		**Lymph node involvement**
	NO	No cancer detected in the lymph nodes
	N1	Cancer spread to one or more lymph nodes measuring less than 2cm
	N2	Cancer spread to one or more lymph nodes measuring 2-5cm
	N3	Cancer spread to one or more lymph nodes measuring more than 5cm
M		**Metastasis to distant sites other than lymph nodes (cancer spread)**
	MO	Cancer that is confined to the prostate, surrounding tissues and pelvic lymph nodes
	M1	Cancer that has spread beyond the pelvic area to bones, lungs, etc.



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Special Thanks

Drug manufacturer, Abbvie, has recently made a generous donation to our Support Group. They produce Lupron, a drug used to treat prostate cancer.

Abbvie is dedicated to improving the health and lives of Canadians by providing innovative and reliable pharmaceutical products.

Our Support Group Board is most appreciative they have chosen to give us their support again this year.

Many thanks.

abbvie

Email - manpros@mts.net ALL MEMBER INFORMATION IS KEPT CONFIDENTIAL

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Receive this newsletter by email ~ Please notify us and we'll make the changes. ***Thank-you***

2016 MEETINGS

Apr. 21 Jennifer McLaren, Consultant – Reh-Fit Centre
Topic: Fitness and Prostate Cancer

May 19 Dr. Arbind Dubey, Radiation Oncologist
Topic: Modern Radiation Therapy for Prostate Cancer

June 16 Kristen Bilenky, Social Worker
Topic: Cancer System Navigation

July 21 Member's Forum
Topic: Snacks/Juice and shared members stories

All meetings at
Seven Oaks Wellness Centre - Room 4
(except Sept.)
7 – 9 p.m.
Everyone Welcome

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