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Clinicians Embrace New Prostate Cancer Grading System

The 5-tier Gleason grade group system is used routinely today in pathology reports and physician counseling of patients with newly diagnosed prostate cancer.

First described in a paper published 4 years ago, the new Gleason grade group system for the risk classification of prostate cancer (PCa) is now routinely included in PCa pathology reports and commonly used in counseling patients newly diagnosed with the malignancy.

Stephen J. Freedland, MD, professor of surgery and associate director for faculty development at the Samuel Oschin Comprehensive Cancer Institute at Cedars-Sinai Medical Center in Los Angeles, California, says his institution regularly includes grade groups in PCa pathology reports. “We still get Gleason scores on our pathology reports, but we also get the new grade group [classifications],” said Dr Freedland, who holds the Warschaw Robertson Law Families Chair in Prostate Cancer. “In talking to patients, I find it much easier to use.” He noted, however, that he still has to explain Gleason scores because patients invariably go online to find PCa information, and the websites they visit typically discuss Gleason scores. In time, Dr Freedland said, it is likely discussions about Gleason scores with patients will fade away, as the new grade group system is much easier to explain, “but we are in a transition period, where we need to explain both.”

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The new Gleason grade group system, which is a modification of the original Gleason scoring system, was first described in a 2013 paper in *BJU International*.[1] In November 2014, participants in an International Society for Urological Pathology consensus conference endorsed the grade group system and proposed its adoption in a 2016 report published in the *American Journal of Surgical Pathology.*[2] The system consists of 5 grade groups that correspond to traditional Gleason scores 6, 3+4, 4+3, 8, 9, and 10, with grade group 1 indicating the most favorable prognosis and grade group 5 the least favorable. In a 2016 interview with *Renal & Urology News*, Jonathan I. Epstein, MD, from Johns Hopkins Medical Institutions in Baltimore, who led the team that was the first to propose the new grading system, said the system distills pathologic findings into the key differences in prognosis “that can be intuitive to both patients and clinicians.”

An important feature of the new system is the placement of Gleason score 6 cancers into grade group 1. Another key aspect is the distinction the system makes between Gleason score 3+4 and 4+3 cancers, which often are simply called Gleason score 7 disease in discussions with patients but which differ substantially in prognosis. The grade group system separates these cancers into grade groups 2 and 3, respectively.

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In addition to endorsement by International Society for Urological Pathology, the World Health Organization accepted it for inclusion in the 2016 edition of Pathology and Genetics: Tumours of the Urinary System and Male Genital Organs.

“Over the past year, I've been utilizing the Gleason grade group system for patient counseling of prostate cancer,” said Zachary Hamilton, MD, assistant professor in the Division of Urology at Saint Louis University School of Medicine in Missouri. The new system is more “patient-friendly,” and it is much easier to describe grade groups of 1 to 5 as opposed to the traditionally used Gleason 6 to 10. “I feel it's especially helpful for patients to understand low-risk tumors, such as grade group 1, and for delineating the difference between Gleason 3+4 vs 4+3 as grade groups 2 vs 3.”

Pathologists at his institution routinely include the traditional Gleason score and new grade group system in their reports, “but I believe in the next several years most centers will make the transition to the new grade grouping,” Dr Hamilton said.

Elliot M. Paul, MD, a physician partner at Advanced Urology Centers of New York's Lake Success division, said the pathologists at his practice have started using the Gleason grade group system, and urologists have been pleased with its integration. The traditional Gleason scoring system often confused patients, and it can be difficult to explain to patients that Gleason 6 disease actually is low-risk cancer, despite being rated a score of 6 out of 10. Similarly, explaining the difference between Gleason 3+4 and 4+3 disease can be complex and time consuming, yet often makes a big difference in terms of prognosis and evaluation, he noted.

“The newer Gleason grade group system has certainly assisted my colleagues and me in patient counseling,” Dr Paul said. “I have spent a lot of time trying to calm patients and their wives after they misunderstood and overestimated the severity of Gleason 6 disease. I now find it a lot easier to explain the safety of active surveillance for many patients with Gleason grade group 1, which saves me time and my patient from unnecessary anxiety. I look forward to the Gleason grade group system being utilized more uniformly by pathologists worldwide, thereby allowing patients and clinicians to communicate more effectively and thus eliminate some of the confusion when explaining

pathology results to our patients."

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Pathologists at his practice transitioned to the Gleason grade group system more than 2 years ago, but, for now, they also report the Gleason score next to the grade group score.

Sanoj Punnen, MD, assistant professor of urology at the University of Miami's Miller School of Medicine, reports a similar experience using the grade group system. "We have started using it, and it is much easier to discuss pathology with patients using this system," Dr Punnen said. "For example, it is difficult to explain to someone with Gleason 6 that their cancer is low grade, when it is scored more than half way up the Gleason scale. Saying your cancer is only grade group 1 is much more interpretable."

Trying to discuss the difference between Gleason 3+4 and 4+3 disease can be difficult, "but now we can just say the difference between grade group 2 and 3, which again makes much more sense to patients," he said.

Some clinicians, however, are not impressed with the new system. Scott Eggener, MD, professor of surgery and co-director of the Prostate Cancer Program at the University of Chicago Medical Center in Illinois, said he still prefers to use the traditional Gleason 6 to 10 scoring because this is what patients will encounter when they go online to research their disease or discuss their cancer with other patients with PCa. The grade group system, he said, can be confusing to patients. Although transitioning to the new grade group system will be slow, "I expect that it will eventually be widely accepted, and it will be the new norm," he said.

R. Jeffrey Karnes, MD, associate professor of urology at the Mayo Clinic in Rochester, Minnesota, said he is not convinced the grade group system, which his institution started using this year, is an improvement. The grade group system, he said, is essentially a renaming exercise because Gleason scoring, which

has been in use for around half a century, is the basis of the new system. Gleason scoring has been, and continues to be, the most prognostic variable in PCa, especially for patients treated with surgery, he noted. “I did not find the system broken.”

“Perhaps the renaming might make patients understand the grading better in prostate cancer,” said Dr Karnes, chair of the Division of Community Urology at Mayo, “but there are many more survivors out there who know and understand the Gleason grading system and might just be confused when told that they have a group 1 [classification].”

The grade group system could lead to loss of specificity and more confusion in pathology reporting, as would be the case with reporting Gleason grade at positive surgical margins, Dr Karnes said. Take, for example, a patient with Gleason 7 cancer. If he has Gleason grade 4 or 3 at a surgical margin, how would a pathologist report that? Or, just in general for Gleason 7, how does a pathologist now give the percentage of grade 4? That percentage could have an effect on clinical management, he said. Further, tumors containing Gleason grade 5 and 3 are potentially more aggressive than 4+4 tumors, but all of these would be classified as grade group 4, he said.

In addition, Dr Karnes pointed out that PCa educational materials available to patients may need to be rewritten, and PCa registries used for research will have to be reworked to reflect the change in how patient risk is classified.

Regardless of how urologists and specialists feel about using the grade group system in clinical practice, those involved in PCa research may have no choice but to embrace it. Editors of major urology and urologic oncology journals (*Journal of Urology, Urology, Urologic Oncology, BJU International, European Urology,* and the *International Journal of Radiation Oncology Biology Physics*) now require investigators to use the new system in their PCa papers. In an article published in all of those journals, the editors wrote: “The new system provides clearer guidance for pathologists to classify cancers on the basis of gland morphology, and it aligns better with contemporary management including active surveillance. The editors of the major uro-oncology journals believe this is a helpful change for clinicians, researchers, and patients alike and are eager to help this system establish itself in the reporting of pathologic grade.”

Since that publication, other journals, including *Prostate Cancer and Prostatic Diseases*, have adopted the new system.

References

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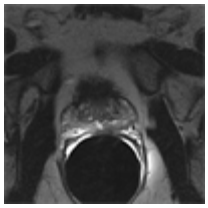

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