Patterns, art, and context: Donald Floyd Gleason and the development of the Gleason grading system.

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Abstract

The Gleason grading system is a standard method of assessing prostate cancer. Very little is known, however, about the person behind the system, Donald Floyd Gleason, MD, PhD. Our objective was to construct a biography of Gleason and show how his work advanced prostate cancer diagnosis. We reviewed Gleason's notes, letters, and publications with the Veteran's Administration Cooperative Urology Research group (VACURG) between 1960 and 1980. Gleason described seeing five recurring histologic "pictures" in his review of 280 initial cases of prostate cancer from 1960 to 1964. By 1966, NIH statisticians combined Gleason's "pictures" with VACURG clinical data into a scoring system. By 1974, over 4,000 cases had been analyzed, and by 1978 the Gleason scale had reached widespread use. Donald F. Gleason recognized trends in histologic patterns which had eluded earlier, more sophisticated pathologic approaches and which lie as the basis for the sophisticated neural networks and nomograms in use today.