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Evolution, controversies and the future of prostate cancer grading.

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Histological grading of prostate cancer is one of the most important tissue-based parameters for prediction of outcome and treatment response. Gleason grading remains the foundation of prostate cancer grading, but has undergone a series of changes in the past 30 years, often initiated by consensus conference decisions. This review summarizes the most important modifications that were introduced by the 2005 and 2014 International Society of Urological Pathology (ISUP) revisions of Gleason grading and discusses the impact that these have had on current grading practices. A considerable inflation in Gleason scores has been observed, especially following the ISUP 2005 revision, and the effects of this are discussed. ISUP 2014 grading recommendations are described, including the reporting of ISUP grades 1-5. Controversial issues include methods for reporting of grades on needle biopsies, reporting of percent Gleason grades 4/5 and grading of cribriform and intraductal carcinoma of the prostate. Educational programs developed recently to promote standardization of grading are described and their results assessed.

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