

Gleason score

Identifying and definitional attributes

Metadata item type: Glossary Item
METEOR identifier: 598061
Registration status:

- [Health](#), Standard 14/05/2015

Definition: The histopathological grade for prostate cancer outlining the differentiation between tumour tissue and normal prostate tissue. The Gleason score is assigned by a pathologist on assessment of specimens from radical prostatectomy or needle core biopsy.

A low Gleason score indicates that the cancer tissue is similar to normal prostate tissue and the tumour is less likely to spread; a high Gleason score indicates that the cancer tissue is very different from normal prostate tissue and the tumour is more likely to spread.

The Gleason score (sum) is formed by adding the primary and secondary Gleason grades/patterns together as outlined in Table 1 for radical prostatectomy specimens and Table 2 for needle core biopsy specimens. If only one grade is found in the tissue sample, then that grade (the primary Gleason grade) is multiplied by two to give the score.

Gleason grades range from 2 to 10 for radical prostatectomy specimens and 5-10 for needle core biopsy specimens (Grades 2-4 are not applicable to needle core biopsy specimens).

Table 1: Gleason scoring in radical prostatectomy specimens

Number of different grades present	Proportion of grades present	Comments
1 - Primary	One of 2, 3, 4 or 5 only	Double primary grade to get score (eg 4+4=8) Record for dominant nodule +/- nondominant (smaller) nodule if of higher grade (if present)
2 – Primary and secondary	Grades mixed	Report both grades, dominant pattern* first (2+3, 3+4, 4+3 ..) Record for dominant nodule +/- nondominant (smaller) nodule if of higher grade (if present)
	Secondary grade is lower and of limited amount (<5%)	Ignore lower grade – 4+3 becomes 4+4 Record for dominant nodule +/- non dominant (smaller) nodule if of higher grade (if present)
	Secondary grade is higher and of limited amount (<5%)	Include higher grade – 3+3 becomes 3+4 Record for dominant nodule +/- non dominant (smaller) nodule if of higher grade (if present)

3 – Primary, secondary and tertiary	Grades 2, 3, 4 or 5	Report dominant grade (largest area) first, then secondary grade (second largest area), then tertiary grade (only if 4 or 5) eg 3+4=7 with tertiary grade 5* eg 2+3=5 with tertiary grade 4* Record for dominant nodule +/- non dominant (smaller) nodule if of higher grade (if present)
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Table 2: Gleason scoring in needle core biopsy specimens

Number of different grades present	Proportion of grades present	Comments
1 - Primary	One of 3, 4 or 5 only	Double grade to get score (eg 4+4=8)
2 – Primary and secondary	Grades mixed	Report both grades, dominant pattern first (3+4, 4+3 ..)
	Secondary grade is lower and of limited amount (<5%)	Ignore lower grade – 4+3 becomes 4+4
	Secondary grade is higher and of limited amount (<5%)	Include higher grade – 3+3 becomes 3+4
3 – Primary, secondary and tertiary	Grades 3, 4 or 5	Score the primary grade and the highest grade: eg 3+4+5 becomes 3+5=8 eg 4+5+3=5 becomes 4+5=9

* The tertiary grade is recorded separately under the item Person with cancer—histopathological grade, tertiary Gleason grade, code N

Note: Dominant (primary) grade is that which occupies the greatest area.

More extensive guidelines are available in the Prostate cancer (radical prostatectomy) structured reporting protocol (2nd Ed.) at the Royal College of Pathologists of Australasia website.

Source and reference attributes

Reference documents: Royal College of Pathologists of Australasia 2014. Prostate cancer (radical prostatectomy) structured reporting protocol (2nd Ed.). Royal College of Pathologists of Australasia: Sydney.

Relational attributes

Metadata items which use this glossary item:

[Person with cancer—histopathological grade, Gleason score code N\[N\]](#)

- [Health](#), Standard 14/05/2015

[Person with cancer—histopathological grade, primary Gleason grade code N](#)

- [Health](#), Standard 14/05/2015

[Person with cancer—histopathological grade, secondary Gleason grade code N](#)

- [Health](#), Standard 14/05/2015

[Person with cancer—histopathological grade, tertiary Gleason Grade code N](#)

- [Health](#), Standard 14/05/2015

[Prostate cancer \(clinical\) NBPDS](#)

- [Health](#), Standard 14/05/2015