NCPTS

The Bethesda System for reporting Cervical Cytology

Principles of the Bethesda System

- must communicate clinically relevant information to the patient's health-care provider
- should be uniform and reasonably reproducible between pathologists and laboratories
- must reflect the most current understanding of cervical neoplasia

The Bethesda System was developed in 1988, revised in 1991 and again in 2001

What was new in 2001?

The most major change was using LSIL / HSIL to replace HPV / CIN1 / CIN2 / CIN3 / CIS

- Reflects clinical thresholds for treatment
- Improved inter-observer variability and intra-observer reproducibility
- Research suggested that the biology was not a continuum, as the CIN spectrum implied.

Bethesda 2001 in New Zealand

- Used to report all cervical/vaginal cytology since 1 July 2005
- Standard report text is used by all laboratories
- Free comments can be added to the report but do not go to the NCSP-Register
- Reports record the type of LBC (SurePath/ThinPrep) and the site (cervical/vaginal) but not the type of sampling device used (spatula/cytobrush/cervibrush)

The Bethesda System 2001
Specimen Adequacy
Interpretation/Result
Recommendation

Adequacy: Satisfactory

- The specimen is satisfactory for evaluation.
- The specimen is satisfactory for evaluation. No endocervical/transformation zone component is present*.

*At least 10 well-preserved endocervical or squamous metaplastic cells either singly or in clusters, constitutes an adequate transformation zone component.

Adequacy: Unsatisfactory

The specimen is unsatisfactory for evaluation because….

of insufficient squamous cells.
of poor fixation/preservation.
foreign material obscures the cells.
inflammation obscures the cells.
blood obscures the cells.
of cytolysis/autolysis.

Comments about adequacy

- For satisfactory smears, an additional comment is made if an endocervical/transformation zone component is absent, but a specific comment is not made if this is present
- The presence or absence of a transformation zone component provides a useful quality indicator for smeartakers but is not associated with increased detection rates of squamous lesions
- The specimen is satisfactory by definition, if atypical or abnormal cells are identified
- If the smear is unsatisfactory as a cervical screening test, the presence of organisms or benign endometrial cells in a woman 40+ years, are still reported

Interpretation/Result

- All reports are categorised by the result as

1. Negative for Intraepithelial Lesion or Malignancy

2. Epithelial Cell Abnormality

3. Other

Result Categorisation

- assists smeartakers to identify abnormal reports
- The category is given as a heading at the top of the report

1. Negative for Intraepithelial Lesion or Malignancy

Normal findings

Organisms

Other non-neoplastic findings
- Reactive changes
- Glandular cells status post-hysterectomy
- Atrophy

Normal endometrial cells in women 40+yrs (NZ)

Reporting reactive changes

- Includes reactive change due to inflammation, infection, previous radiation, an IUCD etc.
- Is optional to report as usually not important clinically
- cytologic recognition is important to avoid overdiagnosis

Organisms

There are organisms consistent with Trichomonas vaginalis

There are fungal organisms morphologically consistent with Candida

There is a shift in microbiological flora suggestive of bacterial vaginosis

There are bacteria morphologically consistent with Actinomyces species

There are cellular changes consistent with Herpes simplex virus

Reactive/non-neoplastic changes

There are reactive cellular changes present.

There are endometrial cells present in a woman over the age of 40 years.*

There are atrophic cellular changes present.

**Note: Endometrial cells after age 40, particularly out of phase or after menopause, may be associated with benign endometrium, hormonal alterations and less commonly, endometrial/uterine abnormalities. Clinical correlation is recommended.*

Reporting normal endometrial cells

- Presence of normal endometrial cells is reported in all women 40+ years regardless of LMP
- The smeartaker decides who needs further investigation
- Women on HRT, taking oral contraceptives or using an IUCD can shed normal endometrial cells at any stage of their cycle
- Normal endometrial cells are reported under a “Negative for Intraepithelial Lesion or Malignancy” heading in New Zealand, instead of the “Other” heading used in the international version

2. Epithelial Cell Abnormality

Squamous

Atypical Squamous Cells (ASC)

- of undetermined significance (ASC-US)
- cannot exclude HSIL (ASC-H)

LSIL: Low-grade Squamous Intraepithelial Lesion

HSIL: High-grade Squamous Intraepithelial Lesion

-with features suspicious for invasion

Squamous Cell Carcinoma

Glandular

Atypical glandular cells (AGC)

Endocervical NOS or favour neoplasia

Endometrial

Glandular NOS or favour neoplasia

Endocervical Adenocarcinoma in Situ (AIS)

Adenocarcinoma:

endocervical/endometrial/extrauterine/NOS

Atypical Squamous Cells

- The ASC category is subdivided as
  - i. ASC-US (90-95% of ASC)
  - ii. ASC-H (5% of ASC)

Atypical Glandular cells

- Atypical glandular cells are identified as endocervical or endometrial where possible, or just called atypical glandular cells
- Atypical endocervical cells and atypical glandular cells can be further categorised as “favour neoplastic lesion”
- Atypical endometrial cells are difficult to identify and are not further classified as this is beyond the limits of cytologic interpretation.

3. Other

Other Malignant Neoplasms

There are abnormal cells consistent with a malignant neoplasm

Other malignancies

- such as sarcoma, lymphoma, melanoma

Recommendation

The next smear should be taken in three years, based on the smear history held on the NCSP-Register.

…..*other report recommendations depending on the report, clinical and NCSP history*

In view of the abnormal clinical history provided, urgent referral for assessment is recommended regardless of the cytological findings.

Women with an abnormal clinical history

- A specific comment can be added to remind smeartakers that any women with abnormal bleeding or an abnormal cervix needs to be referred for investigation irrespective of their cytology result

Note: Because of a legislative change, since March 2005 laboratories have been required to forward all cervical cytology results to the NCSP-Register. Women decide whether to have all their results held by the Register or all opted off. This means that histories held by the NCSP Register should be complete from March 2005 onwards. Women need to inform the Register in writing if they wish to opt off. The Register then does not record any results it receives for women who have opted off.