Cervical screening in general practice

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In 1928 Dr Papanicolaou published a paper in which cells shed from the cervix were collected from the posterior vaginal fornix and smeared onto a slide for evaluation with a microscope. By the 1940s the technique had been refined to that which we know today and was increasing in popularity.[1]

Eighty-five per cent of all cervical cancers are squamous cell carcinomas;[2] cervical intraepithelial neoplasia (CIN) is the descriptive term used for squamous cell changes. For low grade lesions (CIN I) roughly 60% of the lesions will regress, 30% will persist, 10% will progress and only 1% will progress to invasive cancer. For higher grade lesions (CIN II) significant numbers will regress with progression rates to invasive cancer being 5%. For CIN III/CIS (carcinoma in situ) it is likely that the vast majority of these lesions, if left untreated, would progress to invasion.[3] It is estimated from trial data that the average time from development of low grade dysplasia to carcinoma in situ is twelve years with invasive disease taking a further five or more years.[4]

Over half of all cervical cancers occur in women aged over 45 years. The incidence rate starts to climb from age 25, levelling off after age 45.[5] At any one screening cycle only 1% of smears will show a high grade abnormality, and of those only one third would progress to invasive cancer within 10 years if left untreated.[4] The treatment of pre-invasive lesions alters the natural history and it is possible to prevent invasive cervical cancer by early detection and treatment.

This is the rationale behind cervical screening programmes, which, when organised effectively, can prevent over 90% of cervical cancers.[5] Screening yearly will only prevent an extra 2% of invasive cancers whilst increasing costs up to five times that of a three-yearly screening programme.[6]

Currently the largest group of women who develop cervical cancer in New Zealand are women who have never been screened.[2] Maori women are disproportionately represented in this group and maori health is a priority area for the RNZCGP.

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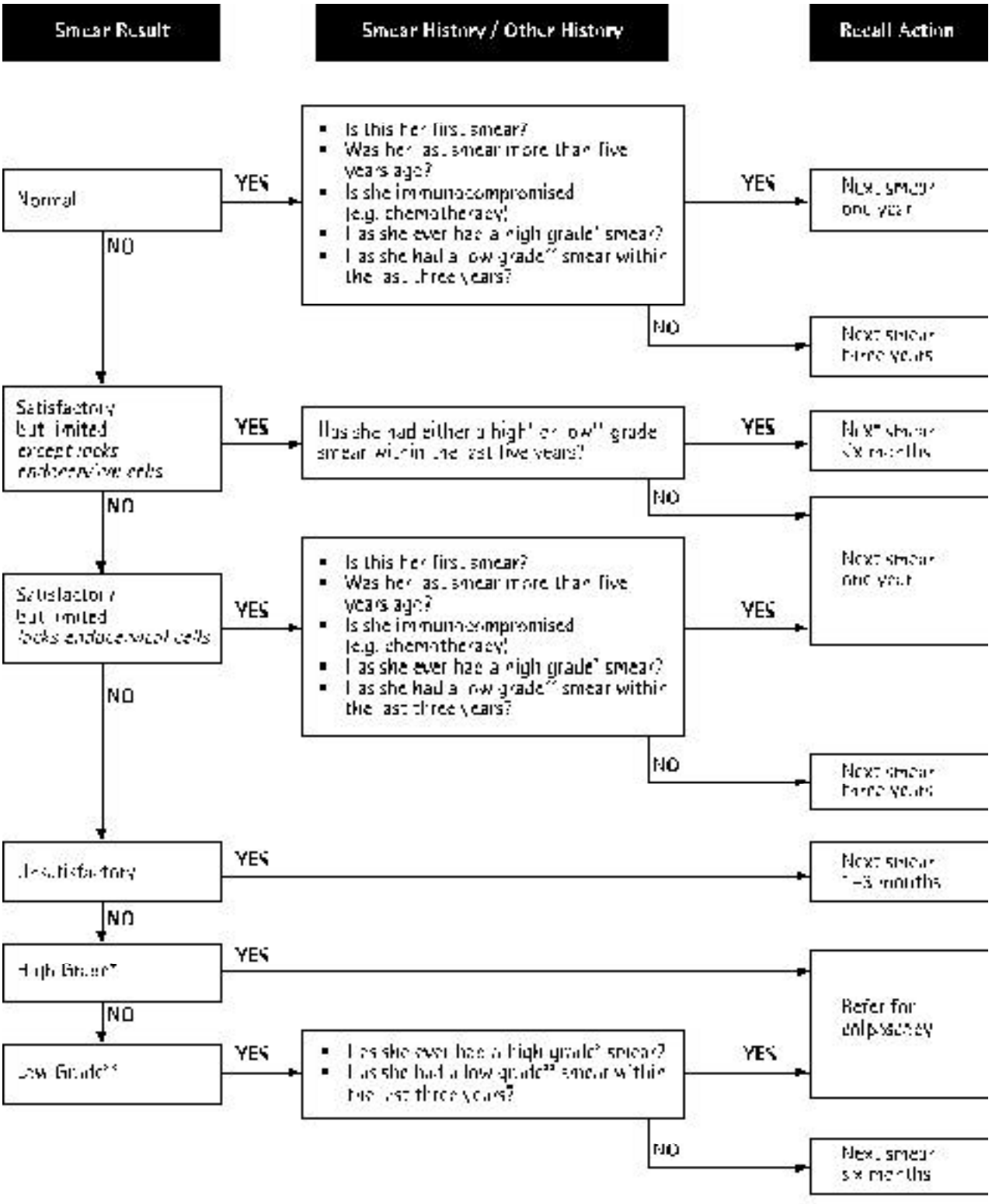
All women aged 20 to 69 years should be offered cervical screening every three years.[7] There is no evidence for benefit from screening prior to the age of 20 years, even if sexually active (consider the natural history). The single most important determinant in the sensitivity of a cervical smear is the method in which the smear is taken.[8] It is vital that general practitioners and practice nurses who take smears understand that they are the lynchpin in the process. In carefully controlled studies the sensitivity of a cervical smear is in excess of 90%,[2] but in everyday practice this falls to 70–80%.[8] The bulk of this reduction in sensitivity is due to problems occurring at the time of taking the smear.[8] Reasons for this include:

- 'blind' smear taking, where the cervix is not adequately visualised
- not adequately sampling the transformation zone where most cervical cancers occur
- although the transformation zone has been adequately sampled it is possible that the site of a lesion was not sampled
- in more advanced lesions necrotic debris may be shed from the surface of the lesion and the dysplastic cells may not be sampled
- delays in adequately fixing the material on transfer to the slide.

The use of 'Thin Prep' and other novel screening devices or methods has not been shown to reduce rates of cervical neoplasms. Whilst decreasing unsatisfactory smears the main increase in detection is for low grade lesions. Increasing detection of lesions that frequently regress results in increased costs through unnecessary investigations and in emotional costs to women.

For high grade lesions conventional technology results in 1% of smears in each screening cycle being reported as high grade; thin prep would improve this detection rate to 1.05%,[4] though given the recent Gisborne Inquiry pathologists enthusiasm for this technology is understandable.



* High Grade: AGUS (favouring dyskaryotic), AIS, HSIL (CIN II, CIN III), ASCUS (possible HSIL)

** Low Grade: LSIL (CIN I or HPV), ASCUS (favouring reactive or LSIL but not qualified), AGUS (favouring reactive or not stratified)

The most significant advantage general practitioners present to their patients who attend for cervical screening is the opportunity to view the consultation as being more than just the performance of a technical skill (in taking the smear). Time can be taken to address other health promotion opportunities such as blood pressure, smoking, mammography to name but a few. (For further information on this topic refer to the RNZCGP resource *Preventive Care and Screening*. Copies are available from the RNZCGP.)

Although the smear is an effective screening test for cervical cancer, in a woman with symptoms or signs suggestive of cervical cancer referral should be made for diagnostic colposcopy regardless of the actual smear result. Abnormal smear results should be managed according to the published guidelines[9] (see flow chart).

In most practices recall systems are computerised and managed by practice nurses. Whilst the use of computerised recall systems have many advantages and can appear efficient there are potential 'blind spots' that can result in segments of your practice population missing out on the benefits of a well organised screening programme.

Areas where problems can occur include: entry onto the recall system, number of recalls, processes for those who fail to respond to recalls, processes for ensuring women are recalled correctly, auditing.

When a woman first attends a practice it may be an inappropriate time to immediately inquire about her cervical smear history, especially if she is attending as a casual patient. However, women who attend multiple doctors on a casual basis may be more at risk of not being screened adequately. For those that are first attending as a regular patient you may wait to receive her previous doctor's notes and transfer the appropriate recall from these, but it would be prudent to set an automatic recall (for say one year's time) in case her notes do not arrive. Another area to ensure inclusion onto the recall system is for women who turn 20.

Once a recall is due it is recommended that for women with a normal history at least two attempts at contact (phone/letter) be made prior to removal from the recall list. For women who have an abnormal history (especially those recalls within 12 months of the last smear) it is recommended that at least three attempts be made at contact prior to removal from the recall list. Recalls done by letter could include an NCSP pamphlet describing the process and reasons for a smear as an aid to informed consent (English pamphlet code 1256).

Key points

- Over half of all cervical cancers occur in women aged over forty-five years.
- Screening yearly will only prevent an extra two per cent of invasive cancers whilst increasing costs up to five times that of a three-yearly screening programme.
- All women aged 20 to 69 years should be offered cervical screening every three years. There is no evidence for benefit from screening prior to the age of 20 years, even if sexually active (consider the natural history).
- The use of 'Thin Prep' and other novel screening devices or methods has not been shown to reduce rates of cervical neoplasms.

Does your practice have a policy regarding the management of the recall system or has it merely grown on an ad hoc basis with no clear overview? Perhaps now is the time to address this by obtaining a copy of the College recently updated *Cervical Screening* resource which contains further information and audit activities.

References

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