VICTORIAN CERVICAL CYTOLOGY REGISTRY

STATISTICAL REPORT 2002

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June 2003

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1. INTRODUCTION

The Victorian Cervical Cytology Registry is one of eight such registries operating throughout Australia. Each State and Territory operates its own register. Victoria was the first State to establish such a register. The Victorian Registry commenced operation in late 1989 after amendments to the *Cancer (Central Registers) Act*.

The Pap Test Registries, as they are commonly known, were introduced progressively across Australia throughout the 1990s. The main reason for establishing the registries was to provide an infrastructure for an organised (or systematic) approach to cervical screening.

Specific tasks assigned to the registries were to facilitate the regular participation of women in the National Cervical Screening Program by sending reminder letters to women, and the provision of a safety-net for women with abnormal Pap smears.

Secondary functions of the registers have developed on a more regional basis. In Victoria, other work areas of the Registry include making available the known screening history of a woman to the laboratory that is reporting the current smear, the provision of quantitative data to laboratories to assist with their quality assurance programs, and the provision of aggregate data to the Commonwealth so the National Cervical Screening Program can be judged against an agreed set of performance indicators.

This Statistical Report is one in a series of annual reports that have been published since the inception of the Victorian Registry. This Statistical Report provides timely information about screening in Victoria; in most areas, the data is additional to that published by the Commonwealth. Wherever possible, the same methodology has been adopted in this Statistical Report as is used in the Commonwealth report.

Cytology registrations are complete for 2002. Most cytology reports are pre-coded by the pathology laboratory to the Registry's Cytology Code Schedule which is included as Appendix 1. The Cytology Code Schedule allows a Pap smear report to be summarised to a five digit numeric code covering the squamous cells, evidence of human papillomavirus infection, the endocervical component, other non-cervical cells, and the recommendation made by the laboratory as regards further testing. The full text of a Pap smear report is not stored at the Registry.

Histology and colposcopy registrations in this report are as notified by the end of March 2003. A very small proportion of all histology reports made during 2002 is expected after this time. While reasonably comprehensive registration occurs for histology reports, only a minority of colposcopy results are registered, most typically when a histology report is not available. Unlike the coding of cytology reports, coding of histology and colposcopy reports is done by the staff of the Registry. As with cytology reports, the full text of the histology and colposcopy reports is not stored at the Registry.

The Reminder and Follow-up Protocol used by the Registry is shown in Appendix 2. Reminder letters are not sent to women whose Registry records indicate a past history of hysterectomy or of cervical or uterine malignancy, or to women who are over 70 years of age.

Finally, the production of this report would not be possible without the cooperation of the staff of the pathology laboratories of Victoria, the staff of the Registry, and the support of the Management Committee. Very sincere thanks are extended to the members of all these groups.

2. PARTICIPATION IN SCREENING

2.1 National Policy

Since 1991, the policy of the National Cervical Screening Program as regards the age group and time interval for screening has been as follows:

> *Routine screening with Pap smears should be carried out every two years for women who have no symptoms or history suggestive of cervical pathology.*
>
> *All women who have ever been sexually active should commence having Pap smears between the ages of 18 to 20 years, or one to two years after first sexual intercourse, whichever is later. In some cases, it may be appropriate to start screening before 18 years of age.*
>
> *Pap smears may cease at the age of 70 years for women who have had two normal Pap smears within the last five years. Women over 70 years who have never had a Pap smear, or who request a Pap smear, should be screened.*[1]

This policy is currently under review by the National Cervical Screening Program.

2.2 By Women

Participation in the Registry by women is voluntary. The non-participation rate in Victoria is considered to be substantially less than 1%. Where a woman objects to her Pap smear being registered, the Registry holds no information about that test.

During 2002, a total of 579,000 Pap smears were registered. This represents a very minor increase of about 1% on the previous year. These 579,000 Pap smears appeared to originate from 516,000 women. No major recruitment program operated in Victoria during 2002.

The following table shows data on the number of Pap smears registered and the number of women from whom these tests appeared to originate for each year of operation of the Registry. The number of women screened in each of these years is probably an overestimate because of incomplete record linkage, there being no unique identifying number for each woman. Where possible, the Medicare number of women is used to assist with accurate record linkage. Since August 1999, the Registry has used SSA-Name in the matching of incoming tests to pre-existing data on the database. This has resulted in more complete record-linkage of different episodes of care for women, compared with the previous approach to record-linkage.

[1] Screening for the Prevention of Cervical Cancer. Commonwealth Department of Health and Family Services. Canberra: AGPS 1998.

Year	No. of Pap Smears Registered	No. of Women Screened
2002	579,000	540,000
2001	577,000	542,000
2000	572,000	532,000
1999	603,000	558,000
1998	619,000	571,000
1997	587,000	535,000
1996	616,000	560,000
1995	590,000	530,000
1994	622,000	562,000
1993	571,000	523,000
1992	542,000	497,000
1991	545,000	498,000
1990	436,000	402,000

In interpreting the information in the above table, it is important to realise that many women in Victoria are screened on an annual basis. Participation over a longer period of time than one year cannot be derived by adding the counts for individual years.

2.3 Participation by Age Group

The participation of women by age group in cervical screening is expressed as a percentage.

- The denominator is the Estimated Resident Population[2], after adjustment for the estimated proportion of women who have had a hysterectomy[3]. While the Estimated Resident Population is available on an annual basis for Victoria, information on hysterectomy fractions is collected nationally approximately every five years; specific rates for Victoria are not available.

- The numerator is estimated from the Registry database. It is the number of women resident in Victoria who had at least one Pap smear in the time period of interest and who appear to have a cervix (that is, they have not had a hysterectomy according to information held by the Registry).

It is emphasised that participation rates are necessarily imprecise and vulnerable to measurement error in both the numerator and denominator.

Applying national hysterectomy rates to the estimated number of women who reside in Victoria will not give an exact count of the number of Victorian women who have a cervix and who are therefore eligible for cervical screening. Furthermore, the imprecision of hysterectomy rates collected in 2001 increases with the passage of time.

Measurement error in Registry data comes from imperfect record-linkage between multiple smears from the same woman (resulting in an overestimate of the number of women screened) and from inaccuracies in the Registry database as regards whether the Pap smear was taken from a woman with or without a cervix. Only women with a cervix are considered eligible for cervical screening.

The following table shows the estimated percentage of eligible women from each decade of the target age range who had at least one Pap smear during 2002, during the two year period 2001-2002, and the three year period 2000-2002.

Age Group	% Screened in 2002	% Screened in 2001-2002	% Screened in 2000-2002
20-29	32%	57%	72%
30-39	39%	67%	80%
40-49	40%	69%	81%
50-59	40%	70%	80%
60-69	32%	58%	66%
20-69	36.7%	64.4%	77.0%

These participation rates are lower than those reported last year when the two and three year participation rates were 66.0% and 80.2% respectively. There are a number of possible explanations for the decline.

First, the participation rates in this current report are calculated using the 2001 estimates of the proportion of women who have a cervix. Based on the 2001 estimates, there are substantially more Victorian women who are eligible for cervical screening compared with the 1995 estimates. It is possible that the use of the 1995 estimates in last year's report over-estimated the participation rates. If the 1995 estimates of hysterectomy rates had been used to calculate participation rates for this report, the two year participation rate (2001-2002) would be 66.1% and the three year participation rate (2000-2002) 79.1%.

[2] Australian Bureau of Statistics.
[3] National Health Survey 2001. Australian Bureau of Statistics

Second, the Registry has progressively improved its record-linkage over the past three years. Record-linkage is the process whereby individual Pap smears are linked to form a woman's screening history. If record-linkage is less complete, then it will appear as though more women have been screened than is really the case. Earlier participation rates may previously have been over-estimated in comparison to the current approach.

Third, no use has been made of mass media as a recruitment strategy in Victoria since 1999. The three year participation rate published last year covered the period 1999-2001, whereas the three year participation rate presented in this report (2000-2002) does not include a time period when mass media was used.

2.4 Participation by Division of General Practice

The Commonwealth Department of Health and Aged Care assigns almost all Victorian postcodes to a Division of General Practice. There are twenty nine Divisions of General Practice located solely within Victoria, and one Division located in both Victoria and New South Wales.

For this analysis, the denominator was the estimated number of eligible women resident in the postcodes of each Division in June 2001.

Division Number	Division Name	% screened 2001-2002
301	Melbourne Division of GP	67%
302	North East Valley Division of GP	68%
303	Inner Eastern Melbourne Division of GP	72%
304	Inner South East Melbourne Division of GP	71%
305	Westgate Division of GP	57%
306	Western Division of GP	62%
307	North West Melbourne Division of GP	63%
308	The Northern Division of GP, Melbourne	59%
310	Whitehorse Division of GP	67%
311	Greater South Eastern Division of GP	67%
312	Monash Division of GP	64%
313	Central Bayside Division of GP	74%
314	Knox Division of GP	65%
315	Dandenong & District Division of GP	64%
316	Mornington Peninsula Division of GP	64%
317	GP Association of Geelong	63%
318	Central Highlands Division of GP	62%
319	North-East Victorian Division of GP	65%
320	Eastern Ranges Division of GP	64%
322	South Gippsland Division of GP	63%
323	Central-West Gippsland Division of GP	61%
324	Otway Division of GP	65%
325	Ballarat & District Division of GP	60%
326	Bendigo & District Division of GP	61%
327	Goulbourn Valley Division of GP	64%
328	East Gippsland Division of GP	67%
330	Western Victorian Division of GP	62%
331	Murray Plains Division of GP	64%
332	Mallee Division of GP	64%
Average		64%

This type of information, being small-area data, is subject to greater measurement error than the data in Section 2.2. The main source of inaccuracy in the above table derives from applying national hysterectomy fractions to the relatively small female population resident in the postcodes of a Division of General Practice. For example, it is extremely unlikely that the national hysterectomy fractions are equally applicable to the postcodes of the Inner South East Melbourne Division of General Practice and the postcodes of the Mallee Division of General Practice.

Other additional (but probably lesser) sources of measurement error derive from use of the service provider's postcode of practice if the woman's residential postcode is not known to the Registry, the proportion of Victorian Pap smears reported by laboratories physically located outside of Victoria who do not report to the Registry (this will mainly effect Divisions located on the Victorian/New South Wales and Victorian/South Australia borders), and differences between the postcode assigned by the Australian Bureau of Statistics to the Estimated Resident Population data and the postcode nominated by the woman in her usual life.

For these reasons, the data in the above table should always be interpreted and used with considerable caution.

3. CYTOLOGY REPORTS

Cytology reports received by the Registry are coded numerically according to the following five categories of information which comprise the main aspects of a Pap smear report.

* Squamous cell code
* Human papillomavirus code
* Endocervical component code
* Other (non-cervical) cell code
* Recommendation code

The following analyses relate only to the 468,000 Pap smears collected by general practitioners and nurse practitioners in 2002. Smears collected by obstetricians and gynaecologists and at hospital outpatient clinics have been excluded from the analyses in Section 3 as these are more likely to be reported as abnormal. These selection criteria thus approximate 'community based smears' from the general female population.

In the following tables, 'Average' refers to the frequency of use of the report codes across all Pap smears collected by general practitioners and nurse practitioners in 2002. 'Range' is the highest and lowest proportion for individual laboratories registering a minimum of 500 smears during 2002; fifteen laboratories fulfilled these criteria. Seven laboratories were excluded from this measurement because they reported less than 500 smears in 2002 to the Victorian Cervical Cytology Registry; four of these laboratories were either located on the border of Victoria and New South Wales or were located interstate.

3.1 Reporting of Squamous Cells

The following table shows the distribution of cytology reports for the ten squamous cell codes during 2002.

Squamous Cell Code	Average	Range
Unsatisfactory	1.5%	0.8% - 5.5 %
No abnormal cells	88.8%	73.5% - 93.7%
Minor reactive/inflammatory changes	4.5%	2.2% - 15.6%
Mild atypia	3.0%	0.7% - 5.7%
Inconclusive	0.5%	0.2% - 1.3%
CIN 1 (incl. equivocal and possible CIN 1)	1.2%	0.3% - 5.3%
CIN 2	0.4%	0.1% - 0.6%
CIN 3	0.3%	0.1% - 0.5%
Possible invasive cancer	<0.01%	<0.01% - 0.2%
Invasive squamous cell carcinoma	0.01%	0.01% - 0.02%

A decrease was observed in 2000 and 2001 in the proportion of smears reported as abnormal. While 5.0% of smears were reported as abnormal in 1999, this fell to 4.4% during 2000 and 2001. There was an increase to 5.3% in 2002.

The proportion of smears reported as showing definite high grade abnormality (ie CIN 2, CIN 3, possible invasive cancer, invasive squamous cell carcinoma) declined to 0.52% in 2000 and 2001, from its previous level of 0.7%. The proportion increased in 2002 to 0.64%.

3.2 Reporting of Human Papillomavirus Change

The following table shows the distribution of cytology reports according to cytological evidence of human papillomavirus (HPV) effect. HPV effect is frequently referred to as 'wart virus infection'.

Human Papillomavirus Cell Code	Average	Range
HPV cell changes absent	97.6%	95.3% - 99.2%
HPV cell changes possible	0.3%	0.0% - 1.8%
HPV cell changes present	2.0%	0.6% - 2.9%

3.3 Reporting of Endocervical Component

The following table shows the distribution of cytology reports for the codes relating to the endocervical component. Smears which are known to have been collected post-hysterectomy are excluded.

Endocervical Component Code	Average	Range
No endocervical component present	18.9%	11.2% - 26.3%
Normal endocervical component	80.0%	70.8% - 87.0%
Minor reactive/inflammatory changes	0.9%	0.0% - 3.1%
Inconclusive	0.2%	0.0% - 0.4%
Mild/moderate dysplasia	<0.1%	0.0% - <0.1%
Adenocarcinoma in situ	<0.1%	0.0% - <0.1%
Possible invasive cancer	<0.1%	0.0% - <0.1%
Invasive adenocarcinoma	<0.1%	0.0% - <0.1%

In 1990, 27% of Pap smears lacked an endocervical component. This proportion gradually reduced over the next five years. Between 1995 and 1999, it remained stable at 15%. During 2000, it increased to 17.3% and in 2001 it was 18.2%. In 2002 there was another small increase to 18.9%

The reason for the increasing proportion of smears without an endocervical component is unclear.

3.4 Reporting of Other Cells (non-cervical)

99.9% of the cytology reports for smears collected by general practitioners and nurse practitioners indicated no other (non-cervical) abnormal cells were present.

Among the smears collected by general practitioners and nurse practitioners during 2002, there were 326 reports of benign change in non-cervical cells, 40 reports of malignant cells from the uterus, one report of malignant cells from the ovary, two reports of malignant cells from the vagina, and three reports of other malignant cells (such as metastatic malignancy).

3.5 Use of Recommendation Codes

Not all cytology reports include a recommendation by the laboratory about the next stage of care for the woman. 22,100 (4.7%) cytology reports issued during 2002 to general

practitioners and nurse practitioners did not include a recommendation; this is a decline from 23,000 in 2001.

In the following analysis, the statistics listed under 'Average' use data relating to Pap smears with a recommendation from all laboratories; the statistics listed under 'Range' are confined to the 15 laboratories that attached recommendations to more than 80% of their general/nurse practitioner Pap smears and where a minimum of 500 such reports were made. In calculating these percentages, the number of tests with recommendations was used as the denominator.

Recommendation Code	Average	Range
Repeat smear in 3 years	0.01%	0.0% - 0.2%
Repeat smear in 2 years	82.7%	63.6% - 88.6%
Repeat smear in 1 year	10.4%	1.4% - 21.6%
Repeat smear in 6 months	2.1%	1.0% - 9.7%
Repeat smear in 3 months	0.4%	0.0% - 1.5%
Repeat smear within 4 to 6 weeks	1.7%	0.1% - 5.2%
Referral for specialist opinion	2.0%	1.0% - 3.6%
Other	0.7%	0.0% - 8.2%

Among smears receiving a recommendation, the proportion recommending a repeat smear in two years has decreased slightly to 82.7% after increasing steadily for the last few years. In 2001, 83.4% of smears, where a recommendation was made, recommended a repeat smear in two years. In 2000, the figure was 79.1%, in 1999 it was 76.5% and in 1998 it was 72.9%.

4. HISTOLOGY/COLPOSCOPY REPORTS

This section describes the histology/colposcopy reports taken during 2002 as known to the Registry. Less than one percent of these notifications were colposcopy reports.

From a total of 16,230 such reports known to the Registry, there were 12,437 where the report related to the cervix, with each woman being counted only once on the basis of her most severe report for the year. In ascertaining the most severe report for each woman, histology results took precedence over colposcopy results.

The following table shows the distribution of the further investigations for 2002.

Histology/colposcopy findings	Number	%
Invasive cancer	71	0.6%
Microinvasive cancer	38	0.3%
CIN 3 with questionable microinvasion	17	0.1%
CIN 3	1,465	11.8%
CIN 2/3	392	3.2%
CIN 2	1,504	12.1%
High grade - not otherwise defined	62	0.5%
CIN - not otherwise defined	11	0.1%
CIN 1	1,807	14.5%
HPV effect	947	7.6%
Low grade - not otherwise defined	405	3.3%
Benign changes	3,691	29.7%
Normal	1,958	15.7%
Unsatisfactory	69	0.6%
TOTAL	12,437	100%

Among the 71 women whose further investigations resulted in a diagnosis of invasive cervical cancer, 49 were of squamous type, 11 were adenocarcinomas, three were adenosquamous carcinomas, and eight were other types.

Among the 38 women with microinvasive carcinoma, 35 (92%) were of squamous type and three of adeno type.

Among the 1,465 cases of CIN 3, 1,397 (95%) were of squamous type, 46 were of adeno type and 22 were of adenosquamous type.

5. CORRELATION BETWEEN CYTOLOGY AND HISTOLOGY/COLPOSCOPY REPORTS

The following table shows the correlation between the histology/colposcopy findings and the prediction made on cytology immediately prior to the histology/colposcopy report.

The correlation is restricted to cases where the cytology was reported as abnormal in a six month period preceding the histology/colposcopy report. In cases where the histology or colposcopy report followed a negative cytology report, up to 24 months has been allowed between the cytology and the histology/colposcopy.

In interpreting this information, it is important to remember that only a minority of low grade cytology (atypia, HPV and CIN 1) are further investigated by colposcopy or biopsy, and an even smaller percentage of negative cytology reports are followed by a colposcopy or biopsy. Women who have a biopsy are likely to be an atypical subset of the whole group of women with negative or low grade cytology reports.

	Cytology Prediction						
Histology/colposcopy findings	Negative (n=5289)	Atypia (n=847)	HPV (n=539)	CIN 1 (n=1807)	Inconcl. (n=828)	CIN 2 (n=1530)	CIN 3 (n=1302)
Cancer - invasive squam.	<0.02%	0.0%	0.0%	0.0%	0.0%	0.0%	0.92%
Cancer - invasive other	0.13%	0.0%	0.0%	0.05%	0.60%	0.0%	0.23%
Cancer - microinvasive	0.0%	0.0%	0.0%	0.05%	0.24%	0.13%	1.92%
CIN 3 with questionable microinvasion	0.0%	0.0%	0.0%	.01%	0.0%	0.06%	0.6%
CIN 3	0.9%	3.8%	2.8%	5.0%	23.2%	20.3%	57.5%
CIN 2/3	0.4%	1.9%	1.7%	2.7%	4.5%	8.8%	9.5%
CIN 2	2.5%	9.4%	10.0%	18.2%	16.8%	37.5%	14.4%
High grade- not otherwise defined	0.1%	0.8%	0.0%	0.6%	1.3%	0.9%	1.0%
CIN 1	6.6%	26.2%	29.9%	36.4%	14.5%	14.1%	4.7%
HPV effect	5.3%	17.5%	25.0%	12.8%	5.8%	4.7%	1.8%
Low grade- not otherwise defined	2.7%	7.4%	6.7%	4.0%	4.0%	2.3%	1.3%
Normal, benign	81.4%	32.9%	23.9%	20.3%	29.1%	11.2%	6.1%
TOTAL	100%	100%	100%	100%	100%	100%	100%

Notable points in the above table include the following.

The positive predictive value of a cytology report of CIN 3 for high grade histology (CIN 2, CIN 2/3, CIN 3, cancer, high grade - not otherwise defined) was 86% (1,121/1,302). For a cytology report of CIN 2 it was 67.7% (1,036/1,530). For an inconclusive cytology report, it was 46.6% (386/828). These figures are very similar to last year's.

Among the 1,435 women with CIN 3 histology, 1,250 (87.1%) had preceding cytology that was reported as CIN 2, CIN 3 or inconclusive. This figure compares favourably with last year's value of 82.3% (1,066/1,296).

Among the 1,302 women with CIN 3 cytology who had histology/colposcopy performed within six months were 35 women whose cytology prediction was of adenocarcinoma in situ. Negative histology/colposcopy findings were recorded for 20% (7/35) of these women, compared with 5.8% (73/1,267) of the women whose cytology had been reported as squamous carcinoma in situ or adenosquamous carcinoma in situ.

6. FREQUENCY OF EARLY RESCREENING

While the Australian screening policy is for repeated testing every two years after a negative Pap smear report, many women are screened more frequently than this. While a small level of early rescreening can be justified on the basis of a past history of abnormality, the levels within Victoria and Australia are far in excess of this. The evidence is that early rescreening does not just occur in the months immediately prior to the two year anniversary, but rather is a steady continuum throughout the two year period after a negative Pap smear report.

In late 2000, the National Cervical Screening Program adopted the following definition of early rescreening:

> *Early rescreening is the repeating of a Pap smear within 21 months of a negative Pap smear report, except for women who are being followed up in accordance with the NHMRC guidelines for the management of cervical abnormalities.*

This definition recognises that some rescreening may occur opportunistically between 21 and 24 months after a negative Pap smear report and this may be cost-effective.

The following table shows the number of further testings over a 21 month period for women who received a negative Pap smear report in the February of each year. The data shows that 68% of women aged 20-69 years who were screened in February 2001 had no further tests within the next 21 months. 32% of women aged 20-69 years who were screened in February 2001 underwent early rescreening.

Number of further Pap smears	2001	2000	1999	1998	1997	1996
No further tests	68%	65%	66%	63%	59%	57%
1	27%	29%	28%	31%	34%	34%
2	4%	4%	4%	5%	5%	6%
3	1%	1%	1%	1%	1%	2%
4	<1%	<1%	<1%	<1%	<1%	<1%
5 or more	<1%	<1%	<1%	<1%	<1%	<1%

The data in the above table shows a substantial improvement in early rescreening between 1996 and 2001. Among women screened in 1996, 43% had at least one additional Pap smear within 21 months. By 2001, this figure had fallen to 32%.

Some variation in early rescreening occurs by age group. The following table shows the proportion of women who had early rescreening after a negative Pap smear report in February 2001.

Age Group	% with early rescreening
20-29 yrs	32%
30-39 yrs	35%
40-49 yrs	33%
50-59 yrs	32%
60-69 yrs	26%
20-69 yrs	32%

Early rescreening peaks in the age group 30-39 years and is least evident in the age group 60-69 years.

7. POSITIVE PREDICTIVE VALUE ACCORDING TO TYPE OF PRACTITIONER

Positive predictive value (PPV) is a technical term describing the probability that a woman with a 'positive' screening test is confirmed on further investigation as having disease.

In Australia, the PPV of greatest interest has concerned cytology reports of high grade intraepithelial abnormality. Since 1999, laboratories have been required to have at least 65% of these reports confirmed on histology which is taken within six months of the cytology.

There is interest in the degree to which the PPV varies with the type of practitioner (general practitioner/nurse versus specialist) collecting the cytology.

An evaluation was performed using cytology reports issued in 2001. The most favourable cytology:histology combination was used. Many women had multiple cytology examinations within six months of a biopsy, and a high proportion of women had multiple biopsies. Each woman was allowed a maximum of one cytology specimen collected by a general practitioner/nurse and one cytology specimen collected by a specialist. Where a woman had cytology collected only by one type of practitioner, this was used.

The PPV for cytology collected by a general practitioner/nurse was 72.8% (1,389/1,907) versus 76.3% (1,005/1,317) for cytology collected by a specialist.

These findings are not unexpected as the PPV is influenced by the sensitivity and specificity of the test and the prevalence of disease in the population being tested. While the sensitivity and specificity of cytology should be identical irrespective of the type of practitioner collecting the cytology, the prevalence of disease among women whose cytology is collected by specialists will be higher than among women whose cytology is collected by general practitioners/nurses.

Appendix 1. Cytology Code Schedule

Squamous Cell Code	Wart Virus Code	Endocervical Cell Code	Other (non-cervical)	Recommendation Code
0. Unsatisfactory	- Not reported	- Not reported	- Not reported	- Not reported
		0. No endocervical component present		0. No recommendation
1. No abnormal cells	1. Absent	1. Normal endocervical component present	1. No other abnormal cells	1. Repeat smear - 3 yrs
2. Minor reactive and inflammatory changes	2. Possible	2. Minor reactive and inflammatory changes in endocervical component	2. Abnormal cells present - other (eg IUCD cells, endometrial hyperplasia)	2. Repeat smear - 2 yrs
3. Mild atypia	3. Present	3. Cell changes raising the possibility of a high grade lesion but specific diagnosis not possible (ie inconclusive)	3. Malignant cells present - uterine body	3. Repeat smear - 1 yr
4. Cell changes raising the possibility of a high grade lesion but specific diagnosis not possible (ie inconclusive)		4. Abnormal endocervical cells suggesting mild/moderate dysplasia	4. Malignant cells present - ovary	4. Repeat smear - 6 mths
5. Mild dysplasia (CIN 1) including equivocal or possible mild dysplasia		5. Abnormal endocervical cells suggesting severe dysplasia or adenocarcinoma in situ	5. Malignant cells present - vagina	5. Repeat smear - 3 mths
6. Moderate dysplasia (CIN 2)		6. Suspicious of invasive adenocarcinoma of endocervix (ie at least adenocarcinoma in situ with the possibility of invasion)	6. Malignant cells present - other (includes metastatic malignancy)	6. Repeat smear - 4 wks or less (including immediate repeat with or without treatment for infection, atrophy etc)
7. Severe dysplasia /carcinoma in situ (CIN 3)		7. Adenocarcinoma - invasive		7. Referral for specialist opinion (eg colposcopy)
8. Suspicious of micro-invasion or invasion (ie at least CIN 3 but possible invasion)				8. Other

9. Squamous cell carcinoma - invasive		9. Not applicable because of hysterectomy		

Appendix 2. Reminder and Follow-up Protocol

Cytology Report	Time*	Action by Victorian Cervical Cytology Registry
CIN 2, CIN 3, Cancer	3 months 4 months 6 months 12 months	Contact laboratory Questionnaire to practitioner Questionnaire to specialist if referred Telephone call to practitioner Letter to woman Reminder to woman
Atypia, HPV effect, CIN 1, Inconclusive	9 months 10 months	Courtesy list to practitioner Reminder to woman
Negative with past history of histologically confirmed CIN 2 or 3	15 months	Reminder to woman
Negative with no past history of histologically confirmed CIN 2 or 3	27 months	Reminder to woman
Unsatisfactory	3 months 4 months	Repeat smear reminder to practitioner Reminder to woman

* Time intervals are determined from the date of the cytology