GYNAECOLOGICAL CANCER
This working paper has been prepared and agreed by Dr M A Adams, Consultant Clinical Oncologist and Medical Director, Velindre NHS Trust and Mr A Evans, Consultant Gynaecologist, University Hospital of Wales Healthcare NHS Trust. The information is a result of consultation both within and outside Wales. The recommendations in this report represent the minimum requirements for a quality service and have been agreed by the Cancer Services Expert Group. Further information, regarding recommendation priorities and mechanisms for monitoring their implementation, is available from the Project Office.
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   Current Status .................................................................................................................................................. 9
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1. EXECUTIVE SUMMARY

1. Gynaecological cancer is largely made up of three tumours: endometrium, cervix and ovary which can be regarded individually as less common cancers. Rarer tumours include vulvar cancer, sarcoma and ovarian germ cell tumours.

2. The clinical diagnosis of gynaecological cancer should be made by a gynaecologist or a gynaecological oncologist whose subsequent management is defined according to the multidisciplinary optimum flowcharts as defined in appendices 1-3.

3. Once diagnosed all cervical, ovarian and endometrial cancer patients should be registered at the designated cancer centre and referred for the opinion of a multidisciplinary gynaecological oncology team, the siting of which may reflect local circumstances.

4. There should be a closely working multidisciplinary team comprising surgical and non-surgical oncologists. The lead clinician of the multidisciplinary team should be a recognised gynaecological oncologist and should ensure the maintenance of high standards of the Cancer Centre.

5. The core team should comprise a surgical oncologist, a site specialist clinical or medical oncologist, a pathologist and a gynaecological cancer nurse specialist. Associates who would be involved in selective patients include consultants in radiology providing MRI and CT facilities and a palliative care specialist and there should be access to a clinical geneticist.

6. The non-surgical oncologists may be a clinical or medical oncologist who has a special interest in gynaecological cancer and who has 3-4 dedicated sessions per week. The surgical gynaecological oncologist should be a trained gynaecological surgeon devoting 50% of his time to treatment of gynaecological cancer.

7. There is a need within the cancer centre for a pathologist specialising in gynaecological pathology (spending approximately 50% of his time on gynaecology).

8. The multidisciplinary team should deal with a minimum of 10-15 vulva cancers and undertake a minimum of 20-30 radical hysterectomies per annum to ensure appropriate site specialisation and enable adequate training to take place.

9. The multidisciplinary team should participate fully in medical audit, research trials and continuing medical education.
2. INTRODUCTION

2.01 Gynaecological cancer constitutes 12% of the 7,564 female cancer registrations in Wales (ICD9) for 1990. Welsh data for these cancers, as a group, are included in Volume I and are summarised as follows:

- Average yearly (1984-88) registrations: 1,098
- Registrations in 1990: 1,082
- Projected new registrations in the year 2000: 1,315
- 5 Year Survival: Uterine cancer 73%; Invasive cervical cancer 65%; Ovarian cancer 31%
- Deaths from 1985-94: 4,622
- Years of Life Lost from death under age 70 (1985-94): 43,714

Survival data are from the West Midlands Cancer Registry. For other data sources and ICD9 codes, see CSEG Report, Volume 1

2.02 Cancer of the body of the uterus (ICD9, 179 and 182) is responsible for approximately 300 new cases per year accounting for only 4% of all malignancies in women.

2.03 Cervical cancer (ICD9 180) is responsible for approximately 350 new cases which is only 5% of female cancers.

2.04 Ovarian cancer (ICD9 183) was responsible for approximately 340 cases per year and only 4% of new cases of female cancer.

2.05 Together these malignancies were responsible for 8% just over 330 of the 4,43 female cancer deaths in Wales in 1993(1). Vulvar cancer accounts for only 3-4% of all gynaecological neoplasms. Other cancers, including vaginal cancer, sarcomata, and germ cell tumours are rare and account for only 1-2% of gynaecological cancer. Thus, gynaecological cancer is largely made up of three tumours which, individually, can be regarded as less common cancers in comparison with common cancers, eg. breast or colorectal cancer.

TABLE 1: Registration of Gynaecological Cancer in Wales (1984-1988)

<table>
<thead>
<tr>
<th>Area of Residence</th>
<th>Standardised Registration Ratio (Average annual registrations)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cervical Cancer</td>
</tr>
<tr>
<td>Clwyd</td>
<td>113 (58)</td>
</tr>
<tr>
<td>Gwynedd</td>
<td>104 (32)</td>
</tr>
<tr>
<td>N Wales TOTAL</td>
<td>90</td>
</tr>
<tr>
<td>E Dyfed</td>
<td>119 (36)</td>
</tr>
<tr>
<td>Pembrokeshire</td>
<td>115 (18)</td>
</tr>
<tr>
<td>W Glam</td>
<td>105 (16)</td>
</tr>
<tr>
<td>W Wales TOTAL</td>
<td>70</td>
</tr>
<tr>
<td>Powys</td>
<td>125 (32)</td>
</tr>
<tr>
<td>Mid Wales TOTAL</td>
<td>32</td>
</tr>
<tr>
<td>S Glam</td>
<td>64 (49)</td>
</tr>
<tr>
<td>Mid Glam</td>
<td>106 (70)</td>
</tr>
<tr>
<td>Gwent</td>
<td>84 (46)</td>
</tr>
<tr>
<td>S Wales TOTAL</td>
<td>165</td>
</tr>
</tbody>
</table>

Data source: Wales Cancer Registry

* Registrations for ovarian cancer (ICD9) include rare malignant ovarian germ cell and stromal tumours and uterine adnexal tumours, eg. fallopian tube cancers which constitute no more than 10% of registrations in this group, 90% are epithelial cancers.

Pattern throughout Wales

2.06 The standardised registration rate (SRR) for uterine cancer does not vary greatly range 82-115. The highest rates are in East Dyfed and Pembrokeshire whilst the lowest rates are in South Glamorgan. There is greater variation for cervical cancer registration, the SRR for cervical cancer is highest in Powys at 125 and lowest in South Glamorgan at 64. The rates for ovarian cancer are similar throughout Wales, the highest rate being in Clwyd at 114 and the lowest in Mid Glamorgan at 87.
TABLE 2: Welsh Trends in Registration

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Body of Uterus</td>
<td>ICD9 182</td>
<td>222</td>
<td>216</td>
<td>223</td>
<td>201</td>
<td>229</td>
</tr>
<tr>
<td>Uterus (Unspecified)</td>
<td>ICD9 179</td>
<td>65</td>
<td>81</td>
<td>73</td>
<td>60</td>
<td>78</td>
</tr>
<tr>
<td>Cervix</td>
<td>ICD9 180</td>
<td>361</td>
<td>306</td>
<td>380</td>
<td>329</td>
<td>362</td>
</tr>
<tr>
<td>Ovary &amp; other uterine adnexa</td>
<td>ICD9 183</td>
<td>331</td>
<td>342</td>
<td>331</td>
<td>317</td>
<td>336</td>
</tr>
<tr>
<td>Female Gen Orgs. Other</td>
<td>ICD9 184</td>
<td>99</td>
<td>93</td>
<td>68</td>
<td>72</td>
<td>77</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>1078</td>
<td>1038</td>
<td>1075</td>
<td>979</td>
<td>1082</td>
</tr>
</tbody>
</table>

Data Source: Welsh Health 1994

2.07 According to these figures there has been no significant change in registration for gynaecological cancer for Wales as a whole, for any gynaecological tumour site over the years 1986-1990. Taking the common registrations together, the body of uterus (ICD 182) and Uterus Unspecified (ICD 179), cervix (ICD 180) and ovary & other uterine adnexa (ICD 189) there were 247 registrations in North Wales (Clwyd and Gwynedd), 187 registrations in West Wales (East Dyfed, Pembrokeshire and West Glamorgan) and in South East Wales, (South Glamorgan, Mid Glamorgan and Gwent) there were 455 registrations with 111 registrations in Powys. (North Wales is currently served by the Clatterbridge Centre for Oncology and the Christie Hospital, Manchester; West Wales by Swansea/Singleton Oncology Centre; South East Wales by Velindre Oncology Centre and Powys partly by Shrewsbury Oncology Centre and partly by Velindre).

International Comparisons of Survival for Gynaecological Cancer

TABLE 3: Age Standardised 5 year Survival Rates for European Cancer Patients

<table>
<thead>
<tr>
<th>Tumour Site</th>
<th>Relative Survival Percentage in European Countries</th>
<th>Mean</th>
<th>High</th>
<th>Low</th>
<th>Range</th>
<th>% variation around mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cervix (N=22119)</td>
<td></td>
<td>58%</td>
<td>64%</td>
<td>52%</td>
<td>12%</td>
<td>21%</td>
</tr>
<tr>
<td>Corpus body (N=22768)</td>
<td></td>
<td>70%</td>
<td>77%</td>
<td>60%</td>
<td>16%</td>
<td>24%</td>
</tr>
<tr>
<td>Ovary (N=24030)</td>
<td></td>
<td>30%</td>
<td>35%</td>
<td>25%</td>
<td>10%</td>
<td>34%</td>
</tr>
</tbody>
</table>

2.08 Whilst the prognosis of all three cancers is influenced by stage at presentation, the prognosis of ovarian cancer and cervical cancer are also influenced by access to expert treatment. For ovarian cancer, the effect of chemotherapy has probably paid a significant role in outcome since 1980. In Scotland, audit of outcome^{33} has been shown to be improved with:

- Referral and operation by a gynaecologist
- Platinum Chemotherapy
- Referral to a specialist clinic attended by gynaecologists and oncologists
- Residual tumour <2cms postoperatively

2.09 International comparisons suggest relative survival rate for cervical cancer in England and Wales approaches that of the mean but is inferior to France, the Netherlands, Germany, Italy and Spain. For carcinoma of the uterine body, the relative survival for English registries approximates the European average but is inferior to the Netherlands, Denmark and Italy. For ovarian cancer the figures would suggest that survival for England and Wales approximates the European mean of 30% but is inferior to the Netherlands. The five year survival for ovarian cancer in England and Wales as reported by the CRC is only 28%, the highest overall survival in Europe being 37%^{33}.
Effect of Age on one and five year survival throughout Europe

2.10 In general, among elderly patients, the range of relative survival is larger during the first year of diagnosis for cancers for which stage at diagnosis has an overriding influence on prognosis, eg. carcinoma of the cervix and corpus uteri, suggesting delay in diagnosis in the elderly may be important in these diseases. The range in one year survival rate is much narrower for the age group 45 to 54 than the 75+ years suggesting a narrower stage distribution amongst younger patients on presentation. In addition, because 5 year relative survival rates vary considerably amongst patients with cervical carcinoma in middle age differences in patient management probably play a role. Survival rates in the elderly vary particularly for cervical cancer which reflect the importance of treatment as well as stage at presentation on outcome. In ovarian cancer, 5 year survival rates are lower in the elderly and it is unclear to what extent this reflects stage at diagnosis or treatment factors, probably it reflects both.

### TABLE 4: Effect of Age on Survival in Gynaecological Cancer

<table>
<thead>
<tr>
<th>Tumour site</th>
<th>No of cases (throughout Europe)</th>
<th>Year*</th>
<th>Mean</th>
<th>High**</th>
<th>Low**</th>
<th>Range</th>
<th>% variation around mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 45 - 54 years</td>
<td>Cervix</td>
<td>3835</td>
<td>1</td>
<td>85</td>
<td>91</td>
<td>81</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>59</td>
<td>68</td>
<td>55</td>
<td>13</td>
</tr>
<tr>
<td>Age 75+ years</td>
<td>Cervix</td>
<td>2395</td>
<td>1</td>
<td>57</td>
<td>73</td>
<td>46</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>27</td>
<td>38</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>Age 45 - 54 years</td>
<td>Corpus</td>
<td>3600</td>
<td>1</td>
<td>92</td>
<td>96</td>
<td>89</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>85</td>
<td>92</td>
<td>79</td>
<td>13</td>
</tr>
<tr>
<td>Age 75+ years</td>
<td>Corpus</td>
<td>4343</td>
<td>1</td>
<td>74</td>
<td>81</td>
<td>66</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>53</td>
<td>60</td>
<td>40</td>
<td>20</td>
</tr>
<tr>
<td>Age 15 - 44 years</td>
<td>Ovary</td>
<td>2481</td>
<td>1</td>
<td>83</td>
<td>90</td>
<td>77</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>60</td>
<td>70</td>
<td>51</td>
<td>19</td>
</tr>
<tr>
<td>Age 65 - 74 years</td>
<td>Ovary</td>
<td>6250</td>
<td>1</td>
<td>47</td>
<td>57</td>
<td>37</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>21</td>
<td>23</td>
<td>18</td>
<td>5</td>
</tr>
</tbody>
</table>

* Year(s) since diagnosis, ** High and Low: average of second and third highest and lowest rates respectively

2.11 It appears there has been no increase in survival of uterine cancer throughout Europe between 1978 - 1985 but there was a modest increase in the survival of cervical cancer and ovarian cancer. Survival in elderly patients is poor which may reflect access or referral for optimum treatment and in some cases a reluctance to treat the elderly.

### TABLE 5: Effect of Period of Diagnosis on Treatment Outcome in Europe

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cervix Uteri (22119)</td>
<td>1</td>
<td>82%</td>
<td>83%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>56%</td>
</tr>
<tr>
<td>Corpus Uteri (22768)</td>
<td>1</td>
<td>85%</td>
<td>88%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>73%</td>
</tr>
<tr>
<td>Ovary (24030)</td>
<td>1</td>
<td>54%</td>
<td>62%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>28%</td>
</tr>
</tbody>
</table>
Therefore, it can be concluded from the Eurocare Study\(^3\), optimum outcome for these three gynaecological cancers, appears to be determined by:

- Access to gynaecologists for early diagnosis
- Availability of expert surgery, radiotherapy and chemotherapy
- Well organised, modern specialised care

For all three cancers, relative survival was generally improved in countries with good access to well organised, modern specialised care, e.g. the Netherlands.

3. CURRENT GYNAECOLOGICAL CANCER SERVICES AND REFERRAL PATTERNS: THE POSITION IN WALES

3.01 A questionnaire (copy available from the Project Office) was sent to 14 DGHs in Wales, known to treat gynaecological cancer. Replies were received from 9 out the 14 DGHs. A similar questionnaire was sent to 4 cancer centres, Velindre, Clatterbridge, Manchester and Swansea, and replies were received from all centres.

3.02 Accurate figures for the numbers of gynaecological cancer patients were available in 2 out of 9 DGHs who replied to the questionnaire. Of the remaining 7 DGHs that replied, approximations of the numbers of gynaecological cancer patients were forwarded. Accurate figures were available from 3 out of the 4 cancer centres for patients directly referred to them.

Until a standardised clinical information system is adopted, all Wales multidisciplinary audit or even local audit of outcome is not possible.

### Gynaecological Cancers within the 9 DGHs which responded to the Questionnaire

<table>
<thead>
<tr>
<th>Cancer</th>
<th>Mean Nos. of Pts. diagnosed per year</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cervical Cancer</td>
<td>17.6</td>
<td>2 - 36</td>
</tr>
<tr>
<td>Ovarian Cancer</td>
<td>19.9</td>
<td>8 - 33</td>
</tr>
<tr>
<td>Endometrium</td>
<td>21.2</td>
<td>7 - 38</td>
</tr>
<tr>
<td>Vulvar Cancer</td>
<td>5.8</td>
<td>1 - 18</td>
</tr>
</tbody>
</table>

3.03 Within the DGHs in Wales there are approximately 60 gynaecologists diagnosing and treating gynaecological cancer (the figures provided by the questionnaire suggest that together, they are seeing 316 cervical cancers, 324 endometrial cancers, 306 ovarian cancers and 90 vulvar cancers: a total of 1036 gynaecological cancers per year which is similar to the annual total provided by the registry of approximately 1,000 patients per year).

### Gynaecological cancer workload per gynaecologist per year (3.9 gynaecologists per DGH : range 2-5)

<table>
<thead>
<tr>
<th>Cancer</th>
<th>Mean Nos. of Cases diagnosed per gynaecologist per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cervical Cancer</td>
<td>4.6</td>
</tr>
<tr>
<td>Ovarian Cancer</td>
<td>5.1</td>
</tr>
<tr>
<td>Endometrial Cancer</td>
<td>5.4</td>
</tr>
<tr>
<td>Vulvar Cancer</td>
<td>1.5</td>
</tr>
</tbody>
</table>
Regional Referral of Gynaecological Cancer Patients to Cancer Centres

<table>
<thead>
<tr>
<th>Centre</th>
<th>No. of Pts referred for non surgical oncology (1994/5)</th>
<th>No. of Pts referred for surgical oncology (1994/5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiff</td>
<td>220</td>
<td>78</td>
</tr>
<tr>
<td>Swansea</td>
<td>No accurate figures available</td>
<td>No accurate figures available</td>
</tr>
<tr>
<td>Liverpool</td>
<td>72</td>
<td>No accurate figures available</td>
</tr>
<tr>
<td>Manchester</td>
<td>39</td>
<td>No accurate figures available</td>
</tr>
</tbody>
</table>

3.04 It was noted that within some DGHs there was referral to a ‘senior gynaecologist’ for radical surgery. These numbers are probably small but there is no information available. It was only within Cardiff, Manchester and Liverpool that there was evidence of site specialisation, both surgical and non-surgical, in the treatment of gynaecological cancer. Chemotherapy was administered according to JCCO standards in the cancer centres of Cardiff, Swansea, Liverpool and Manchester, and by a medical oncologist at Ysbyty Gwynedd. Waiting times for gynaecological investigations for possible cancer varied from 1-6 weeks; the waiting times for radiotherapy from 0-4 weeks within the 4 cancer centres; for surgery, 1-3 weeks; chemotherapy 0-2 weeks.

4. REQUESTS FOR INFORMATION ON GYNAECOLOGICAL CANCER IN WALES

4.1 It is recognised that providing adequate information to patients is essential for all cancers. To assess the needs which are not currently provided for, information was requested from the Tenovus free-phone helpline for 1995. This help-line receives calls from all over Wales but its profile is largely South Wales based. It received 229 calls in 1995 relating to gynaecological cancers from patients throughout Wales. Requests were for the following reasons:

- Treatment Explained
- Prognosis
- Side-Effects
- Psycho-Social Support (Counseling)
- Palliation
- Radiotherapy
- Chemotherapy
- Social Problems
- Sexuality
- Bereavement Support

4.2 Patient contact resulted in over 800 follow up calls in 1995 for this patient group resulting in referrals to Social Workers, GPs, Consultants/hospitals, Palliative Care Providers and Counselling.

4.3 In addition the following information booklets and leaflets were provided:

- Over 500 BACUP Books on Gynaecological Cancer
- Tenovus Information Leaflets and Fact Sheets

5. RESEARCH IN WALES

Clinical Research

5.1 National MRC phase III clinical trials, together with phase II studies, are currently being supported in Cardiff, where there is a clinical trials unit, and also by the medical oncologist in Ysbyty Gwynedd. In North Wales patients may also be entered into phase III and phase II trials by referral to Clatterbridge Hospital, Liverpool, or the Christie Hospital, Manchester where there are active clinical trials units.
Basic Research

5.2 A gynaecological tumour immunology group has been established directed by Professor Lezek Borysiewicz and includes Dr S Man (Tenovus), Dr A Fiander (UHW), Dr Malcolm Adams (Velindre), Mr Alan Evans (UHW), Dr B Jasani (Pathology UHW) and Dr N Dallimore (Pathology Llandough). The group is currently investigating innovative approaches including anti-tumour vaccines in the treatment of gynaecological cancer. Having completed and reported a phase 1 study of TA/HPV vaccine in cervical cancer it is planned to commence clinical study of the vaccine in volunteers with pre-invasive cancer in 1996. The clinical vaccine studies have been coordinated by Dr Alison Fiander, Clinical Research Fellow. A further research fellow, Dr K Lim has been funded to investigate the immunology of preinvasive and invasive cervical cancer with a grant from The Welsh Scheme.

5.3 At present the group is seeking funding of a randomised controlled trial of different medical managements and optimum psychological approach to women with borderline or mildly dyskaryotic cervical smears, incorporating an investigation of HPV testing in cervical screening. The lead investigators for this investigation are:

Dr C Wilkinson, Department of General Practice
Professor L K Boryseivicz, Department of Medicine

In North Wales, the focus currently for basic research is in England in Clatterbridge and the Christie.

6. EXPERTISE REQUIRED FOR MANAGEMENT OF GYNAECOLOGICAL CANCERS

Endometrial Cancer

Current Status

6.01 Patients with endometrial cancer usually present with post menopausal bleeding, an alarming symptom which enables diagnosis to be made early.

6.02 Surgery is the preferred initial management as the majority of patients present with early disease and this is usually carried out in Wales by a general gynaecologist in a District General Hospital.

6.03 There is no overall clearly defined referral policy in Wales as a whole. Selective pelvic radiotherapy may be determined by pathological factors but the reasons for referral to a Clinical Oncologist are currently imprecise - only 50% of patients with endometrial cancer are referred to a Clinical Oncologist and there is no all Wales protocol defining the optimum management.

Recommended Management (See Appendix 1)

6.04 District General Hospitals should nominate a lead gynaecologist in this area who should be part of the collaborative gynaecological oncology team. The role of this doctor needs to be well recognised by primary care physicians and have a major role in promoting early diagnosis. Referral patterns can be clearly defined as the presenting symptom is almost invariably peri or post menopausal bleeding.

6.05 Formal diagnosis requires hysteroscopy.

6.06 Well differentiated (low risk) good prognosis tumours should be managed surgically at the District General Hospital supervised by the lead gynaecologist in the cancer unit and referred to an oncologist for an opinion on optimum postoperative management as defined by an optimum practice protocol.

6.07 Women with poorly differentiated and advanced (high risk) poorer prognosis tumours should be referred for surgery by a gynaecological oncologist, an appropriately trained gynaecologist spending 50% of his/her time treating gynaecological cancer.

6.08 The few patients presenting with locally advanced disease who are unfit for surgery require treatment with radical radiotherapy which may be curative. The radiotherapy of this disease requires an accredited clinical oncologist with a special interest in gynaecological cancer and access to external and brachy therapy.

6.09 Endocrine and chemotherapy have a limited role for palliative therapy of incurable disease.

6.10 The precise role of radiotherapy in endometrial cancer is currently being investigated by the MRC and all relevant patients referred centrally should be considered for entry into trials and adjuvant new treatments.
Elective Surgical Procedures

6.11 Appropriate standardised operative forms should be available in the operative theatre for accurate documentation of surgical findings, together with a FIGO guide to help with staging.

Ovarian Cancer

Current Status

6.12 For reasons which are not known, Wales has one of the highest rates of ovarian cancer in Europe at 14.7 per 100,000 population. Currently, general surgeons and gynaecologists in Wales operate on women with ovarian cancer. Although ovarian cancer is difficult to diagnose, the symptoms being insidious, 75% of patients at presentation will have an abdominal pelvic mass, 38% will have ascites and the risk of an abdominal pelvic mass being malignant increases with age. Therefore, in a high proportion of patients, ovarian cancer may be suspected preoperatively and elective surgery planned.

6.13 The staging of ovarian cancer is a surgical staging involving examination of the whole of the abdomen. A number of patients with ovarian cancer are still operated on via an inappropriate incision.

6.14 Currently, recent studies have found that survival with ovarian cancer was significantly better if the person was seen by a gynaecologist rather than a general surgeon and survival was better when the gynaecologist performed the operation as part of a gynaecological-oncological team.4)

Recommended Management (See Appendix 2)

6.15 Women with a pelvic mass should be referred to a gynaecologist. Pre-operative assessment should include clinical examination and ultrasound examination performed by or under direct supervision of a consultant gynaecologist. All patients should have a pre-operative blood sample taken for CA125 baseline level of tumour markers. In young women of less than 30 years of age, where there is a possibility of a germ cell tumour, measurement of alpha fetoprotein and beta HCG should be carried out. Large pelvic masses require urgent referral to a gynaecologist experienced in the management of ovarian cancer. Clinical factors such as fixity of the mass in the pelvis or CT or MRI evidence of bowel involvement will suggest to the gynaecologist that referral is indicated to optimise the chance of successful debulking (the extent of residual tumour is an important prognostic factor).

6.16 Currently it is not considered good practice for large pelvic masses to be assessed laparoscopically due to the potential problem of tracking of malignant cells through the trocar insertion line.

6.17 If ovarian cancer is an unexpected finding by a surgeon who is not experienced with ovarian cancer at laparotomy, a gynaecological surgeon experienced in ovarian cancer should be called. If such a specialist is unavailable, the abdomen should be closed and the patient referred to a gynaecological oncologist (a trained gynaecological surgeon devoting 50% of his time to treatment of gynaecological cancer). Surgery requires adequate theatre time, often unscheduled and at short notice and these patients should be regarded as urgent cases.

6.18 Currently the role of intervention surgery after chemotherapy is being explored by MRC in patients who have not been adequately debulked. Such surgery requires an experienced gynaecological oncologist.

Elective Surgical Procedures

6.19 Appropriate standardised operative forms should be available in the operative theatre for accurate documentation of surgical findings, together with a FIGO guide to help with staging.

6.20 Cysts should be removed intact and not decompressed for removal through an inadequate incision.

6.21 Peritoneal washings in the absence of ascites is essential.

6.22 A diaphragmatic smear for cytology should be performed in early stage disease. Biopsies should be taken from the pelvic side walls and any suspicious peritoneal surfaces should be biopsied where appropriate.

6.23 Optimum surgery requires bilateral salpingo-oophorectomy and hysterectomy and omentectomy. In two-thirds of patients, complete removal of tumour is not possible. Intervention surgery after response to chemotherapy is currently part of a projected study. Such intervention surgery requires referral, special expertise at a gynaecological oncology centre. Conservative surgery for a unilateral stage 1A mass can be considered in a young patient when child bearing is a consideration.
Women with adequately staged early ovarian cancer stage 1A and B can be spared adjuvant chemotherapy. This is also true of borderline tumours. However, this decision can only be made with an adequate pathology report which may require review. All other women with ovarian cancer require platinum based chemotherapy. At present, a number of new drugs, eg, paclitaxel, topotecan are being investigated in trials. Such treatment should be administered by an accredited clinical or medical oncologist with an interest in gynaecological cancer who needs to administer treatment according to JCCO criteria (see Appendix 4).

Two-thirds of patients with ovarian cancer eventually succumb from recurrent advancing cancer. Intestinal obstruction is frequently the terminal event together with pain and requires particular expertise from a palliative medicine physician for control of symptoms.

More than 5% of patients with ovarian cancer have been identified as being genetically at risk. Recent genetic research has incriminated the BRCA1 gene and other genes which are also associated with breast cancer. Patients with two or more first degree relatives with ovarian cancer are at particularly high risk of developing ovarian cancer and may require the services of a clinical geneticist. These patients also need to be registered with the UKCCCR study and will require screening with ultrasound and the tumour marker CA125 up to the age of 35. Ovarian cancer screening for the general population is not recommended at present as it is of unproven value.

Recent studies have demonstrated that outcome may be affected by management. These studies identified improved outcome when ovarian cancer patients were:

- First seen and operated on by a gynaecologist
- Received platinum chemotherapy
- Were referred to a specialist clinic attended by a gynaecologist and oncologist
- Had a residual tumour less than 2cm postoperatively

Vulvar Cancer

Vulvar cancer is a rare tumour representing 4% of all gynaecological malignancies. This cancer is largely treated with surgery.

Current Status

The tumours of the vulva are difficult to assess and registration through Wales is patchy. They are often treated inappropriately, the belief being that women in the 6th and 7th decade of life would benefit from a simple procedure and these tumours often recur with fungating groin nodes. The management of vulvar cancer has changed in the last 10 years, the trend being for a more conservative treatment.

Lymphadenectomy is still necessary as, even with lesions less than 2cm in diameter there is a 19% incidence of lymph node metastases to the groins.

Recommended Management

All patients with histologically confirmed vulvar cancer should be referred to a gynaecological oncology centre for surgery by a gynaecological oncologist.

The role of radiotherapy and chemotherapy in this disease is being evaluated and hence the value of close collaboration within specialist clinical groups.

Most women with vulvar cancer are in their 60s and 70s and it is necessary for these women to have social and psychological support. The development of self help groups is perhaps inappropriate in this age group and these women benefit tremendously from a gynaecological oncology support nurse.

Cervical Cancer Screening

Current Status

The cytology laboratories and the designated doctors in all Welsh areas are the subject of a recent report emanating from the All Wales Advisory Group on Cervical Cytology, Chairman, Dr A Cattell. Currently, 82% of women or thereabouts are screened on a call and recall basis in Wales either on a three yearly or five yearly call. The arrangements regarding the types of call letter, the management of the response and the arrangement for managing the abnormal smear should be coherent throughout Wales within the next 2 years. There is an emphasis on the seamless management of patients through cytology, the colposcopy services in Wales, and, where necessary, to a gynaecological oncologist for the management of cervical cancer.
Management of the Abnormal Smear

6.35 Management of the abnormal smear should be undertaken in designated colposcopy sessions. There should be a lead clinician with training in colposcopy. He or she should not work in isolation. There should be membership of the BSCCP.

6.36 All of Wales should be carefully audited regarding assessment and treatment of the abnormal smear. This information should be available for all Wales national audit.

Cervical Cancer

Current Status

6.37 There is no All Wales protocol for management of cervical cancer. In some areas the emphasis is on referral to a Clinical Oncologist for formal staging and radiotherapy, in other areas there are enthusiasts undertaking occasional annual or biannual hysterectomies followed by radiotherapy. At present, an optimum practice protocol is in preparation.

Recommended Management (See Appendix 3)

6.38 Symptoms on presentation are usually well defined consisting of intermenstrual or post coital bleeding and vaginal discharge. Asymptomatic patients should be referred from the screening colposcopy service. They require an urgent referral to a gynaecologist for diagnosis. Patients need to be accurately staged including a proper biopsy of the cervix prior to treatment. A modern management includes staging with magnetic resonance imaging.

6.39 Radical Wertheim’s Hysterectomy is the preferred management for young patients with early stage cervical cancer when MRI excludes parametrial extension of tumour. Disease free survival depends on lymphatic space involvement by the tumour, tumour size and depth of stromal invasion. A radical hysterectomy should only be carried out by a competent trained gynaecological oncologist. The surgery requires greater expertise and training than is required for routine, non oncological gynaecological surgery. Central referral and early discharge locally should be developed. Post operative radiotherapy should be available for all patients.

6.40 At operation there should be an appropriate and relevant surgical form and registration of the patient.

6.41 Radical radiotherapy with external radiation and brachy therapy is utilised for patients with advanced disease and those with early disease not suitable for surgery. Such therapy requires a clinical oncologist specialising in gynaecology with experience in external radiotherapy and brachy therapy in this disease.

6.42 Radical exenterative surgery used selectively can have a high survival when carried out by an expert in this type of surgery. It is reserved for young patients with centralised recurrence. It requires a high degree of surgical training to perform such an operation competently.

6.43 Chemotherapy with platinum based treatment has a limited role in the palliative management of advanced disease, however, the role of neo-adjuvant chemotherapy is unproven and at present the MRC are preparing a clinical trial to evaluate its role.

6.44 Palliative management in incurable disease frequently demands the expertise of a Palliative Medicine Physician.

6.45 All women with cervical cancer find it a stressful experience. There should be easy access to good nurse counsellors.

6.46 Current developments in Wales include potential development of a vaccine and the willingness to join in protocols for chemotherapy in recurrent cervical cancer.

Rare Gynaecological Tumours

6.47 Few clinicians have experience of uterine sarcomas or ovarian germ cell tumours, the latter requiring combination chemotherapy for a highly curable disease in young women. Consequently, they should be referred to a specialist centre for chemotherapy according to a protocol and included in a trial where possible.

6.48 The rare chorio carcinomas from South Wales are all sent to Charing Cross for treatment. This centralisation of treatment for a rare curable cancer has proved extremely successful and should continue.
7. OVERVIEW OF OPTIMUM REQUIREMENTS FOR GYNAECOLOGICAL CANCER SERVICES

7.1 There is a need for accurate clinical information and figures and a clinical information system needs to be adopted. In each District General Hospital there should be appropriate designated lead clinicians who are well known to primary care physicians and who work in collaboration with oncologists/gynaecologists in the cancer centre. There should be a forum whereby all these lead clinicians can communicate and be aware of upgrading of protocols and audit outcome.

7.2 The responsibility for management protocols should come from the cancer centre whose management structure needs to be defined. Currently the British Gynaecological Cancer Society and the Royal College of Obstetricians and Gynaecologists working groups are trying to define the general requirements for a gynaecological oncology centre. Gynaecological oncology centres must be suitable for training and the general requirements for subspecialty training centres are as follows:

General Requirements for Subspecialty Training Centres

7.3 To be eligible for subspecialty training a centre must:

- provide a service for the referral and transfer of patients who would benefit from subspecialty facilities, expertise and experience;
- have established close collaboration with related disciplines to provide the high degree of teamwork and concentration of resources for the intensive investigation and management of such patients;
- have established close collaboration with other obstetricians and gynaecologists within and outwith the centre, including major regional roles in continuing postgraduate education and training, research advice and co-ordination, and audit;
- have an adequate workload providing a full range of experience in the subspecialty; alternatively two or more centres may combine to provide a programme with all the required experience;
- have a programme director who will co-ordinate the training programme, accept the main responsibility for its supervision and be actively involved in it; when more than one centre provides the programme, there must be a supervisor at each centre, with one having overall responsibility as director. Directors and supervisors will be consultants with special experience in the relevant subspecialty field, and directors with the eventual development of subspecialisation the directors and supervisors will themselves be accredited subspecialists;
- have adequate medical staffing to enable the trainee to be engaged in his/her subspecialty field on a full-time basis (or in the case of a part-time trainee, during all of his/her normal working hours); participation in emergency and on call work outside normal working hours is not excluded, subject to approval by the Subspecialty Committee (applications for approval of training programmes should include an outline of the on-call commitments etc.);
- have adequate library, laboratory and other resources to support subspecialty work, training and research, over and above that required for the recognition of MRCOG and higher training posts;
- provide the resources for a research programme related to the subspecialty;
- must provide sufficient clinical work, staffing, facilities and other support so that initiation of a subspecialty training post is not detrimental to the higher training or special interest training of other registrars, senior registrars or lecturers in recognised posts;
- IT support with clinical information system which can provide outcome data for audit.

Special Requirements for Training Centres in Gynaecological Oncology

7.4 To be eligible for subspecialty training in gynaecological oncology, a centre must:

- appoint a lead clinician who should be a recognised gynaecological oncologist (devotes at least 50% of his time to gynaecological cancer) but he/she should be supported by a second such individual. Both should have at least five sessions dedicated to gynaecological oncology;
- provide a service for the referral and transfer of patients with gynaecological cancer, with close collaboration with other gynaecologists within and outwith the centre;
- have an adequate clinical workload (approximately 200-300 patients per year) with a full range of gynaecological oncology problems;
- have a colposcopy clinic;
• collaborate closely with consultant clinical and medical oncologists and their supporting staffs having definite commitments to the management of gynaecological cancer; it is accepted that the oncology centre will not always be on the same site but timetables and programmes must be such as to allow adequate joint consultation, with participation by the trainee in the pre-treatment assessment and training in the basic principles of radiotherapy and chemotherapy;

• collaborate closely with general and urological consultant surgeons and their supporting staffs involved in the management of intra-abdominal and pelvic cancer and its complications;

• have an adequate gynaecological pathology service provided by consultant pathologists and their supporting staffs having definite commitments in the gynaecological malignancy and pre-malignancy;

• have adequate access to modern diagnostic imaging facilities and have close collaboration with consultant radiologists and nuclear medicine specialists, with their supporting staffs, having definite commitments in the field of intra-abdominal and pelvic malignancy;

• have a research programme in the subspecialty field, with access for the trainee to support his own training programme;

• have genetic counselling and a clinical gynaecological oncology support nurse who can cross Trust boundaries;

• ensure that the key personnel, particularly medical staff, may operate in more than one hospital establishing collaborative links with cancer units and smaller cancer centres where they may hold multidisciplinary clinics.

**NB:** Usually a trainee would be expected to perform, over 3 years, 20 radical hysterectomies and 5 radical vulvectomies; in addition to radical surgery for ovarian cancer, a unit would be expected to deal with 20 - 30 new cases of cervical cancer needing surgical treatment each year, and 20 - 30 cases of primary or secondary treatment of ovarian cancer per year, as well as 5 - 10 cases of vulvar carcinoma. Experience in trophoblastic disease will be limited in most units, but there must be arrangements for a trainee to visit a designated centre for the treatment of trophoblastic disease for an appropriate period of time.

8. **CONCLUSIONS**

8.1 Designated cancer centres should be of the size and have the patient throughput to support a gynaecological oncology team with sufficient expertise and facilities to manage any gynaecological cancer (with the exception of the rare coriocarcinoma which should continue to be referred to Charing Cross). The average district hospital in Wales has too small a workload and insufficient expertise to provide a specialist gynaecological cancer service. The key to the functioning of the ‘gynaecological cancer centre’ is the strength of the collaborative team and links with lead gynaecologists in with smaller units. The collaborative team who may function on more than one site, should be able to provide a lead for determining optimum practice guidelines and protocols. They should be able to provide adequate level three training for future surgical and non surgical specialists. The team would need to be able to audit treatment outcome and in addition, should have facilities for supporting clinical research and initiating basic research essential to meet training needs.

9. **RECOMMENDATIONS**

1. Gynaecological cancer should be diagnosed by a gynaecologist following guidelines laid down by a multidisciplinary team or a gynaecological oncologist in the local cancer centre. Subsequent management will be defined according to a locally agreed multidisciplinary optimum practice protocol agreed with clinicians and purchasers.

2. Once diagnosed all patients should be registered at the designated local cancer centre and referred for the opinion of a multidisciplinary gynaecological oncology team the siting of which may reflect local circumstances.

3. There should be a multidisciplinary team comprising a surgical gynaecological oncologist, a clinical or medical oncologist, a pathologist and a cancer nurse specialist. Associates, involved with selective patients, include consultants in radiology, providing MRI and CT facilities, palliative care and clinical genetics.
4. The surgical gynaecological oncologist and specialist pathologist should devote 50% of their time to gynaecological cancer. The gynaecological clinical or medical oncologist should have at least 3-4 dedicated sessions per week. The multidisciplinary team should deal with a minimum of 10-15 vulval cancers and 20-30 radical hysterectomies per year to ensure appropriate specialisation and training.

5. The lead clinician of the multidisciplinary team should be a recognised gynaecological oncologist and should ensure the maintenance of high standards, participation in medical audit, research trials and continuing medical education.

|               | c. Sub-specialisation in Gynaecological Oncology (Syllabus). The Royal College of Obstetricians and Gynaecologists 1987 |
|               | d. Survival of Cancer Patients in Europe, The Eurocare Study 1985 |
|               | e. Published Papers |

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11. ACKNOWLEDGEMENTS
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6. Dr H Buckley, St Mary’s Hospital, Central Manchester Healthcare Trust
Women with post or perimenopausal bleeding

GP Referral

Refer to Consultant Gynaecologist at Cancer Unit or Cancer Centre

Diagnosis, Hysteroscopy, Staging

Register

Low risk Endometrial Cancer

Surgery under care of gynaecologist

High risk (Stage, Grade)

Gynaecological Oncology Multidisciplinary Team

Entry into trials

No recurrence

Follow-up and discharge

Recurrence

Radical surgery under care of gynaecological oncologist Adjuvant therapies

Palliation where appropriate
1. Cancer chemotherapy should be carried out in designated inpatient or outpatient facilities which are properly equipped for the purpose.

2. Cancer chemotherapy should be carried out only by experienced trained staff.

3. Cytotoxic drug regimens should only be initiated by consultants, senior registrars and associate specialists with appropriate training and experience in those specific regimens.

4. Registrars and SHOs who administer cytotoxic drugs must seek advice if a change of drug dosage becomes necessary.

5. Cancer chemotherapy trial protocols must be available on the ward, in the clinic and in the pharmacy.

6. Doctors who give cancer chemotherapy must perform checks with nursing staff at the bedside to ascertain:
   - Patient identification
   - Drug regimen
   - Drug dosage
   - Route of administration
   - Diluent
   - Frequency
   - **If in doubt - do NOT proceed**

7. Responsibility for the maintenance of safe procedures and standards of practice lies with the consultant concerned.

8. Cancer chemotherapy should be undertaken within the normal working hours whenever possible since the danger of error multiplies outside these times.