Cervical cancer is currently the fourth commonest cancer in women globally. Since the cervical screening programme was introduced in the UK, the incidence of cervical cancer has fallen by 44% and the number of deaths from the disease by 70%.

The discovery of human papillomavirus (HPV) DNA in cervical cancer cells has led to research which has found that persistent cervical infection with certain ‘high risk’ HPV types is a significant cause of cervical cancer (BMJ 2013;347:4781).

Two techniques have subsequently been developed to reduce the cervical cancer burden even further:
- HPV testing.
- HPV vaccination (see article on HPV vaccination).

**Risk factors for cervical cancer and HPV**

- Genital HPV infection.
- Early age of first coitus.
- Multiple sexual partners.
- Lower socio-economic status.
- Smoking.
- Combined oral contraceptive use.

Age, number of sexual partners and socio-economic status are all associated with risk of contracting HPV. Smoking and COCP use probably increase risk by reducing capacity to clear the infection.

**HPV infection**

HPV infection is common in young, sexually active women – around 40% of 20–24 year old women are HPV positive. Infection declines with age, probably as a result of clearance and reduced reinfection (Br J Cancer 2009;95:56).

Most infections are harmless and short-lived, but some persist and lead to CIN and invasive cervical cancer. HPV 16 and 18 are the most important, and contribute to 70% of cancers worldwide. There are 11 other high risk types (BMJ 2013;347:4781) which, together with 16 and 18, account for 99% of cervical cancer.

**Primary HPV testing in cervical cancer screening**

Until now, there have been two roles for HPV testing:
- Triage of borderline/low-grade cervical smears.
- Test of cure post-CIN treatment.

In July 2016, following a successful pilot scheme and advice from the UK National Screening Committee, the Department of Health announced the introduction of primary HPV testing in the cervical cancer screening programme. This means that all cervical screening samples will be tested for HPV first, and only HPV positive samples will go on to have cytology testing.

While the details have not been publicised yet, a report by the Advisory Committee on Cervical Screening outlines its recommendations for the new screening programme (Advisory Committee on Cervical Screening: Report to the National Screening Committee 2015).

**The evidence supporting primary HPV testing**

4 large European RCTs (including the ARTISTIC trial from the UK) compared HPV-based screening with cytology-based cervical screening (Lancet 2014;383:524). Pooled data from these studies found that, overall:
- HPV-based screening prevented 60–70% more invasive cervical cancers than cytology-based screening.
- 5y intervals with HPV-based screening are safer than 3y intervals with cytology-based screening.
- However, the results only apply to women from 30y, as there was insufficient data to draw conclusions about younger women.

A detailed cost-effectiveness modelling exercise based on ARTISTIC data and other UK data concluded that HPV as a primary screen would be cost and life-years saving.

**Are there any disadvantages?**

The major disadvantage is the lower specificity compared with cytology, owing to the high rates of HPV infection, particularly in young women. However, vaccination should reduce this high prevalence, and improve the clinical utility of HPV testing in the 25–30y age group.
Under the new system, it is LIKELY (although not yet confirmed) that:

- All cervical samples will be initially tested for HPV.
- HPV positive samples will have reflex cytological testing (using same liquid-based cellular sample).
- HPV positive women with abnormal cytology results will be referred to colposcopy.
- Women who have negative cytology will then be recalled at 12m (in anticipation that at least half will then be HPV negative).
- HPV positive/cytology negative women who then test negatively for HPV will have ‘safety check’ HPV test at 3y, before returning to usual (6y) recall.
- Persistently HPV positive women will be referred to colposcopy, regardless of cytology result.

The cervical screening algorithm is LIKELY to look like this: PP - from WOmen's Health Autumn 2016, page 129

---

**Cervical screening age ranges and frequency**

Research has shown that the sensitivity of HPV testing enables longer screening intervals between tests, so the new screening system is likely to involve less testing for an HPV-negative woman over her lifetime (Advisory Committee on Cervical Screening: Report to the National Screening Committee 2015).
Further evidence for the safety of longer screening intervals with HPV-based screening comes from the POBASCAM trial. This was a huge RCT in the Netherlands that compared cytology-based cervical cancer screening (controls) with cytology and HPV co-testing based screening (intervention). The routine screening interval in both groups was 5y and follow-up data is now available for three rounds of screening. Women with moderate dyskaryosis or worse were referred directly for colposcopy. Women with borderline or mild dyskaryosis or positive HPV results had follow-up testing at 6 and 18m (BMJ 2016;355:i4924). They found that:

- For women with negative cytology but a positive HPV test, cervical cancer incidence was significantly lower in the intervention group (55.4/100 000 woman years) compared to the control group (190.9/100 000 women years, rate ratio 0.29 (CI 0.1–0.87, \( P = 0.02 \)). This supports the role of HPV testing in identifying a group of women at risk of cervical cancer that would not be picked up by cytology alone.
- There was no significant difference in cumulative incidence of cervical cancer or CIN 3 after three rounds of HPV-negative screening compared to two rounds of cytology-negative screening. This suggests that a negative HPV test provides longer reassurance than a negative cytology test.
- HPV-positive, cytology-negative women remained at significantly increased risk of CIN 3+ throughout follow-up compared to HPV-negative women, e.g. HPV-positive women with negative baseline, and repeat cytology had an 18.5 (CI 12.5–27.3) fold increase in CIN 3+ compared to HPV-negative women. This supports a risk stratification approach for future screening interval based on the HPV result.
- The women in the trial were all aged over 29y at entry so it does not provide information about HPV screening in younger women.

Why does screening commence at aged 25y?

In 2009, following public pressure to reduce the initial screening age to 20y, the Advisory Committee on Cervical Screening conducted a review. It concluded:

- There was no evidence that cancer cases had increased in women <25y (and is rare in this age group).
- There was good evidence that screening <25y was ineffective and potentially may do more harm than good.

Furthermore, the national HPV vaccination programme is likely to reduce the risk of cervical cancer further in young women.

What do I tell women about their HPV result?

- Almost all cervical cancers are caused by HPV (the wart virus).
- Many types of HPV are completely harmless, but there are 13 ‘high risk’ types of virus (including 16 and 18) which together are responsible for >99% of cervical cancer.
- The National Cervical Cancer Screening Programme tests for these high risk subtypes, and women with a positive result have an increased risk of cervical abnormalities that may progress to cervical cancer.
- Women with a negative test result have a low risk of developing cervical cancer, so can safely return to the normal screening programme.
- Most sexually active women come into contact with HPV at some time in their life. It can be spread by any close sexual contact, not just penetrative sex, and the use of condoms provides only limited protection.
- There is nothing you can prescribe to ‘cure’ the infection. In most cases, the woman’s immune system will clear the infection within 1–2y.

Cervical cytology terminology

- Cervical smear (cytology) results report the level of dyskaryosis (abnormalities seen within the cervical cells).
- Dyskaryosis may be reported as borderline, mild, moderate or severe.
- Moderate or severe dyskaryosis may also be referred to as ‘high grade dysplasia’ and mild dyskaryosis as ‘low grade dysplasia’.
- CIN (cervical intraepithelial neoplasia) reflects the degree of invasion of the abnormal cells, and the extent can only be determined at biopsy (taken at colposcopy).
- CIN 1 is a one-third depth invasion, CIN 3 is full thickness invasion.
- The level of dyskaryosis is suggestive, but not indicative, of the level of CIN that will be found at colposcopy, e.g. it is possible
to have moderate dyskaryosis and CIN 3.

**National cervical screening programme statistics**

- In 2014, coverage of eligible women (who had had at least one test in the past 5y) was 77.8%.
- This represents a decline since 2004 when it was 80.6%.
- Coverage is lowest in the 25–29y age group (63.3% screened within 3.5y interval).

47% of women who develop cancer have not been screened in the past 5y, or have never been screened in the UK, and this group are more likely to have advanced cancer.

**Cervical screening non-attenders**

Several studies have identified demographics of non-attenders. They tend to be:

- Young women.
- >50y.
- Ethnic minorities.
- Lower socio-economic groups.

Reasons include inconvenience, fear of cancer, apathy, and concern about the procedure.

**HPV as test of cure after CIN treatment**

After colposcopy treatment for CIN, women in the UK Screening Programme are offered a repeat test of HPV status to assess whether they have cleared the virus, and to stratify their ongoing risk of cervical cancer.

A recent large study from the Netherlands showed that, after treatment for CIN, even after three consecutive normal cervical smears, the risk of cervical cancer remained elevated about 4× greater than if a patient's index smear was normal (BMJ 2012;345:e6855). This was either because abnormal cells were left behind after colposcopy treatment, or because of persistent HPV infection. Women with persistent HPV infection are the highest risk group, and will continue to need more frequent smears.

This has been demonstrated to be cost-effective (BMJ 2012;345:e7086). This UK-based economic modelling study suggests that HPV test of cure would be more cost-effective than cytology-only follow-up, and recommends that this is implemented across the whole UK Screening Programme.

**What about women who have never been sexually active?**

- Their risk is very low.
- 99% of cervical cancers are caused by HPV infection.
- They are still eligible for cervical screening but may choose to decline.
- Women who have been sexually active at any time carry some risk.

**Lesbian and bisexual women**

- A literature review commissioned by the NHS Cervical Cancer Screening Programme in 2009 found that:
  - Uptake of cervical screening is up to 10× lower in this group.
  - Prevalence of HPV amongst lesbian and bisexual women is 3–30%.
  - Prevalence of HPV amongst lesbian women who report never having heterosexual intercourse is 19%.
  - HPV can be transmitted through lesbian sexual contact.
  - 30% of lesbian women had been told by their GP they did not need a smear test.

We should encourage lesbian and bisexual women to participate in screening and vaccination in the same way as heterosexual women.
### Cervical cancer screening

- All women in the UK aged 25–64y are offered cervical screening.
- More than 99% of cervical cancer is due to high risk HPV infection.
- Under-25 year olds are not offered screening because research has shown that it is not effective in this age group, and the harms outweigh the benefits.
- The National Cervical Screening Programme in the UK will be changing from primary cytology to primary HPV testing. With primary HPV testing:
  - Cytology is only performed on HPV positive samples.
  - Women with abnormal cytology are then referred for colposcopy.
  - Women with HPV positive/negative cytology have continued annual HPV monitoring.
  - HPV ‘test of cure’ is part of follow-up for all women who have colposcopy treatment, and determines future screening interval and whether further colposcopy is needed.
- Lesbian and bisexual women should be encouraged to attend screening because they are at risk of HPV infection; their attendance is typically 10x lower than other women.

### Reflective exercise:

**How would you explain to a woman what being HPV positive means?**

**How could you encourage lesbian and bisexual women to attend? Do you currently give them the correct information?**

### For patients and professionals:

More information about HPV triage and what the results mean:
- [www.intrust.org.uk/faq/cervical-screening](http://www.intrust.org.uk/faq/cervical-screening)

Specific information leaflet for lesbian and bisexual women:

Managing cervical problems in young women (<25y):

---

**We make every effort to ensure the information in these pages is accurate and correct at the date of publication, but it is of necessity of a brief and general nature, and this should not replace your own good clinical judgement, or be regarded as a substitute for taking professional advice in appropriate circumstances. In particular check drug doses, side effects and interactions with the British National Formulary. Save insofar as any such liability cannot be excluded at law, we do not accept any liability for loss of any type caused by reliance on the information in these pages.**

---

**GP Update Limited**  
**March 2017**
ALL OUR
2017 COURSES

Our comprehensive one-day update courses for GPs, GP STs, and General Practice Nurses.

We do all the legwork to bring you up to speed on the latest issues and guidance.

All our courses are:

**Relevant**
Developed and presented by practising GPs and immediately relevant to clinical practice.

**Challenging**
Stimulating and thought-provoking.

**Unbiased**
Completely free from any pharmaceutical company sponsorship.

**Fun!**
Humorous and entertaining – without compromising the content!

Are they for me?
Our courses are designed for:

- GPs, trainers and appraisers preparing for appraisal and revalidation or wanting to keep up to date across the whole field of general practice.
- GP ST1, 2 & 3, looking for the perfect launch pad into general practice and help with AKT and CSA revision.
- GPs who want to be brought up to speed following maternity leave or a career break.
- General Practice Nurses, especially those seeing patients with chronic diseases.

What’s included?

- 6 CPD credits in a lecture-based format, with plenty of time for interaction, humour and video clips, to keep you focussed and awake.
- A printed copy of the relevant handbook including the results of the most important research in primary care over the last 5 years and covering the subjects more extensively than possible in the course.
- 12 months’ subscription to [www.gpcpd.com](http://www.gpcpd.com).
  With three times the content of the handbook, it allows you to capture CPD credits as you read on the site and use it in consultations! It also comes with Focused Learning Activities - Online learning activities to provide evidence for your appraisal and earn hundreds of further hours of CPD credits.
- Buffet lunch and refreshments throughout the day!

What's not included?

Our courses contain NO theorists, NO gurus, NO sponsors, NO reps on the day!
Just real-life GPs who will be back at the coal face as soon as the course has finished.

www.gp-update.co.uk
The GP Update Course – our flagship course!

With the amount of evidence and literature inundating us, it can be hard to know which bits should change our practice, and how.

The GP Update Course is designed to be very relevant to clinical practice and help you meet the requirements for revalidation.

We collate and synthesise the evidence for you so you don’t have to! Using a lecture based format, with plenty of time for interaction, the GP presenters discuss the results of the most important evidence and guidance, placing them in the context of what is already known about this topic. The presenters also concentrate on what it means to you and your patients in the consulting room tomorrow.

London Fri 10 Mar
London Sat 11 Mar
Oxford Thur 16 Mar
Leeds Fri 17 Mar
Birmingham Sat 18 Mar
Bristol Wed 10 May
Exeter Thur 11 May
London Fri 12 May
London Sat 13 May
Newcastle Wed 17 May
Sheffield Thur 18 May
Manchester Fri 19 May
Birmingham Sat 20 May
Norwich Tues 23 May
Bedford Wed 24 May
London Thur 25 May
Belfast Wed 7 June
Oxford Fri 29 Sept
Southampton Sat 30 Sept
Cardiff Wed 4 Oct
Exeter Thur 5 Oct
London Fri 6 Oct
London Sat 7 Oct
Leeds Wed 11 Oct
Liverpool Thur 12 Oct
Manchester Fri 13 Oct
Birmingham Sat 14 Oct
Cambridge Tues 17 Oct
London Wed 18 Oct

Nottingham Thur 19 Oct
Inverness Wed 1 Nov
Edinburgh Thur 2 Nov
Glasgow Fri 3 Nov

The Women’s Health Update Course

From the pill to pelvic pain, periods and prolapses, the one day Women’s Health Update course is a comprehensive guide to understanding and managing common gynaecological problems in general practice. Using a case-based approach will give you the skills to manage your female patients in a real surgery.

We aim to make the day fun, interactive as well as educational. You will leave the course feeling more confident, knowledgeable and with a much stronger pelvic floor!!!

The day is designed for all GPs and GP STs – not just those with a special interest!

Glasgow Fri 9 June
Birmingham Thur 15 June
London Fri 16 June
Newcastle Thur 22 June
Manchester Fri 23 June
Manchester Thur 2 Nov
Leeds Fri 3 Nov
Nottingham Thur 9 Nov
London Fri 10 Nov
Exeter Fri 17 Nov

The Cancer Update Course

Within the next 15 years the need for cancer care will double and you will look after as many cancer survivors as diabetics. Shared care follow up will become the norm, and secondary care will pass responsibility to us.

A key 2015 Lancet Oncology commission paper warned that: “GPs are inadequately trained and resourced to manage the growing demand for cancer care in high income countries”.

Education for GPs was one of their five key recommendations – we can help you get ahead of the curve! Established GPs and GP STs can use this course to bridge the gap in traditional GP cancer education which has focussed heavily on referral and end of life care missing out the whole journey in between.

This course is able to look in much more detail at the big picture behind the disease perhaps most feared by our patients and, let’s face it, that 1 in 2 of us will be diagnosed with over our lifetime.
Lead. Manage. Thrive! – The NEW management skills course for GPs.

Many of us have chosen to be salaried or portfolio GPs yet feel impotent or looked over when it comes to contributing to the effective running of our practices. We become frustrated and feel that we have little or no influence over what happens. It’s not your fault, most GPs (experienced and new) have had very little training in management and leadership skills for clinical practice.

Here’s the good news, all of us ‘lead’ whether in an official or unofficial role.

Who is this course for? GPs at every stage in their career who aren’t quite sure how to get unstuck! Also highly relevant to anyone who recognises the need to build their personal resilience and leadership skills to meet the demands of modern primary care, i.e. practice managers, nurses, and administrative and support teams.

As usual Red Whale has done all the legwork to bring you a concise, practical and actionable one-day course and handbook. Not only have we trawled through lots of relevant management, leadership and development literature, but we have also distilled its content through the lens of real GPs, enabling you to apply it to the reality of your practice.

### Our Consultation Skills Courses

One day small group courses designed for GPs, GP STs and General Practice Nurses. The courses have a practical focus and lots of engaging exercises allowing delegates to rehearse the most effective consultation behaviours.

But don’t worry, there won’t be any role playing in front of everybody!

For more information on each course, please visit [www.gp-update.co.uk/courses](http://www.gp-update.co.uk/courses)

### The Telephone Consultation Course

- **Leeds** | Wed 17 May
- **Birmingham** | Fri 19 May
- **London** | Wed 7 June
- **Bristol** | Fri 9 June
- **London** | Fri 6 Oct
- **Manchester** | Fri 13 Oct
- **Glasgow** | Sat 4 Nov

### The Medically Unexplained Symptoms Course

- **Manchester** | Thur 18 May
- **London** | Thur 19 Oct

### The Effective Consultation Course

- **Manchester** | Wed 10 May
- **London** | Fri 12 May
- **Leeds** | Wed 4 Oct
- **London** | Fri 24 Nov

### Prices

**GP Update Course:**
- GP £195 | GP Registrar £150 | Nurse £150

**All other courses:**
- £225 or £210 for members of [www.gpcpd.com](http://www.gpcpd.com)

(GPCPD members, please log in and then click on the relevant button within the ‘Member information’ box on the right of the home screen to get your discount code)

### Join the Red Whale pod

Plan ahead! Save £60 when you book three courses in 2017 - use discount code 3BUNDLE2017 when booking via [www.gp-update.co.uk](http://www.gp-update.co.uk) or by phone 0118 960 7077.
I would like to come on the following course(s) (please write legibly!):

- The GP Update Course (location) .............................................................   (date).........................
- The Women’s Health Update Course (location) .............................................................   (date).........................
- The Cancer Update Course (location) .............................................................   (date).........................
- Lead. Manage. Thrive! Course (location) .............................................................   (date).........................
- The Telephone Consultation Course (location) .............................................................   (date).........................
- The Effective Consultation Course (location) .............................................................   (date).........................
- The Medically Unexplained Symptoms Course (location) .............................................................   (date).........................

I can’t attend a course, but would like to order your Handbook or DVD:

- GP Update Handbook and 12 months’ access to GPCPD £150
- GP Update Handbook, DVD and 12 months’ access to GPCPD £225
- Women’s Health Update Handbook £70
- Cancer Update Handbook £70

Price as stated in the flyer for each course. If applicable, please provide your discount code here................................................

To book: Online at [www.gp-update.co.uk](http://www.gp-update.co.uk) or call us on 0118 960 7077 or use the form below.

Name...............................................................................   Address...................................................................................................

(Please write your email address clearly as we’ll use it to send your confirmation letter and receipt.)