



香港陰道鏡及子宮頸病理學會

The Hong Kong Society for Colposcopy and Cervical Pathology

## Health Experts say Co-testing is the Way Forward for Reducing Cervical Cancer Mortality

Every year, almost 500,000 women worldwide are diagnosed with cervical cancer.<sup>i</sup> Half of them die from the disease with the majority of deaths in Asia.<sup>ii</sup>

Since 2004, the Hong Kong government implemented territory-wide routine cervical screening with Pap smear. Since then, cervical cancer incidence and mortality rate in Hong Kong dropped year-on-year. However, in recent years, cervical cancer incidence has leveled off and Pap smear is not reducing incidence further.

How to further reduce the incidence and mortality rate of this preventable disease was the focus of the biennial Asia Oceania Research Organization on Genital Infections and Neoplasia (AOGIN). Held in Hong Kong this year from July 13<sup>th</sup> to 15<sup>th</sup>, leading international women's health experts from home and abroad were here to review the Asia-specific guidelines for cervical cancer management and to exchange newest data on their research in this field. Many believe at present, the key to reducing the number of deaths of cervical cancer is by implementing "co-testing" with Pap smear and high-risk HPV testing for cervical cancer screening. Hong Kong Society for Colposcopy and Cervical Pathology (HKSCCP) organized a press conference on July 16<sup>th</sup> 2012 to increase the awareness of the importance of cervical cancer screening and to share this new screening direction of co-testing with HPV genotyping.

### FACTS ON HPV AND CERVICAL CANCER

Human Papillomavirus (HPV) is the leading cause of cervical cancer and is responsible for more than 99 percent of all cases.<sup>iii,iv</sup> Of the 14 high-risk HPV strains contributing to cervical cancer, two particular strains—HPV 16 and 18—present the highest risk and cause about 70 percent of all cervical cancer cases.<sup>vi</sup>

HPV is contracted by up-to 75 percent of women at some point in their life; yet women generally don't have symptoms of an infection and in the majority of cases the infection clears without any health impact. However some infections may become persistent and may ultimately develop into cancer. This is why regular testing for high-risk HPV—especially HPV 16 and 18—is vital. If detected early and treated in the pre-cancer stage, 98 percent of cases can be cured. But once the disease has developed into cancer and spread to other organs, only one in five women survive past five years.<sup>vii</sup>

# THE EXPERTS' VIEWS

## Importance of quality control in cervical cancer screening

Professor Annie Cheung, co-chair of 2012 AOGIN conference and Pathologist in Charge in the Cervical Cytology Screening Laboratory and Director, (Molecular Pathology), University Pathology Laboratory, at the University of Hong Kong, noted that the Pap smear has been successful in reducing the incidences and mortality rate of cervical cancer in many countries in Asia. On the other hand, co-testing should be considered as a new way forward to further help identifying women at risk before they develop cervical cancer. “With the availability of cutting edge diagnostic technology that identifies women most at risk of developing cervical pre-cancer, we now have the opportunity – and the responsibility to consider developing regional guidelines that include high-risk HPV DNA testing with Pap smear to increase sensitivity of cervical cancer screening. The high-risk HPV DNA test may also be a good screening option for countries that lack the resource and infrastructure to implement effective Pap testing. Both the public

and professionals should bear in mind the importance of quality control in diagnostic settings of both Pap smear and HPV DNA tests,” she explained.

## New guidelines for cervical cancer screening based on ATHENA data

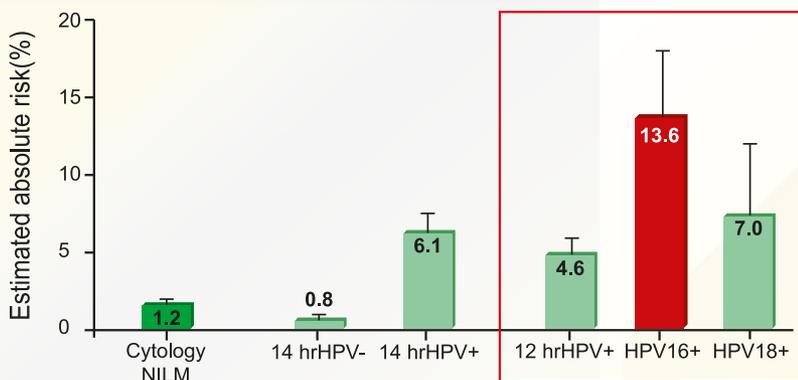
Updated guidelines issued by the American Society for Colposcopy and Cervical Pathology (ASCCP) earlier this year recommend co-testing with Pap smear and high-risk HPV DNA testing for women between age 30 to 65. In developing the guidelines, the organization considered the data from ATHENA study.

The ATHENA study -- the largest US trial for cervical cancer screening with 47,000 participants, found that women with HPV 16 or 18 are 35 times more likely to develop cervical pre-cancer than those without the virus.<sup>viii, ix</sup> HPV 16 and 18 testing

stratifies women based on their risk of developing cervical pre-cancer so doctors can provide a more focused approach to treatment and management.

The ATHENA study also found that one in 10 women who tested positive for HPV 16 or 18 using the cobas HPV Test, had cervical pre-cancer even though their Pap smear results were normal.

## HPV 16/18 genotyping identifies women with the highest risk of developing pre-cancer



## HPV 16 and HPV 18 identifies a subset of hr HPV women who would benefit from immediate colposcopy

Wright TC Jr. et al. Am J Clin Pathol 2011;136:578-586

Absolute risk measurements are estimates based on raw study data. NILM, negative for intraepithelial lesion or malignancy. Women aged ≥30 years.

Figure 1. HPV 16/18 genotyping identifies cancer risk in women with NILM cytology (normal cytology)

According to the updated ASCCP guidelines, women without high-risk HPV are deemed safe and do not need to return for testing for 3-5 years.<sup>8</sup>

*Co-testing of cytology and HPV DNA testing and reduction of cervical cancer incidence*

Meanwhile, Professor Lee Philip Shulman, Professor in Obstetrics and Gynecology and Chief of the Division of Clinical Genetics at the Feinberg School of Medicine at Northwestern University, Chicago, believes that high-risk HPV testing is crucial in reducing the incidence of cervical cancer in the region.

“The new cervical screening guidelines released by ASCCP earlier this year recommended the addition of high-risk HPV DNA testing for women 30 years and above, rather than using Pap smear alone.

These changes aim to better protect women from developing cervical cancer and allow for longer intervals between screening which reduces overall healthcare costs,” said Professor Shulman.

*Women with HPV 16 and HPV 18 genotypes are at the highest risk of cervical cancer*

Dr. Christoph Majewski, Lifecycle Leader HPV and Microbiology of Roche Diagnostics shared the co-testing algorithm recommended by ASCCP to improve screening. He thinks that by conducting Cytology and HPV testing and genotyping simultaneously will greatly assist doctors in making immediate clinical decisions for women who belong to the high-risk category. For example, women who tested HPV 16 and/or 18 positive regardless of Pap status should be sent directly to colposcopy.

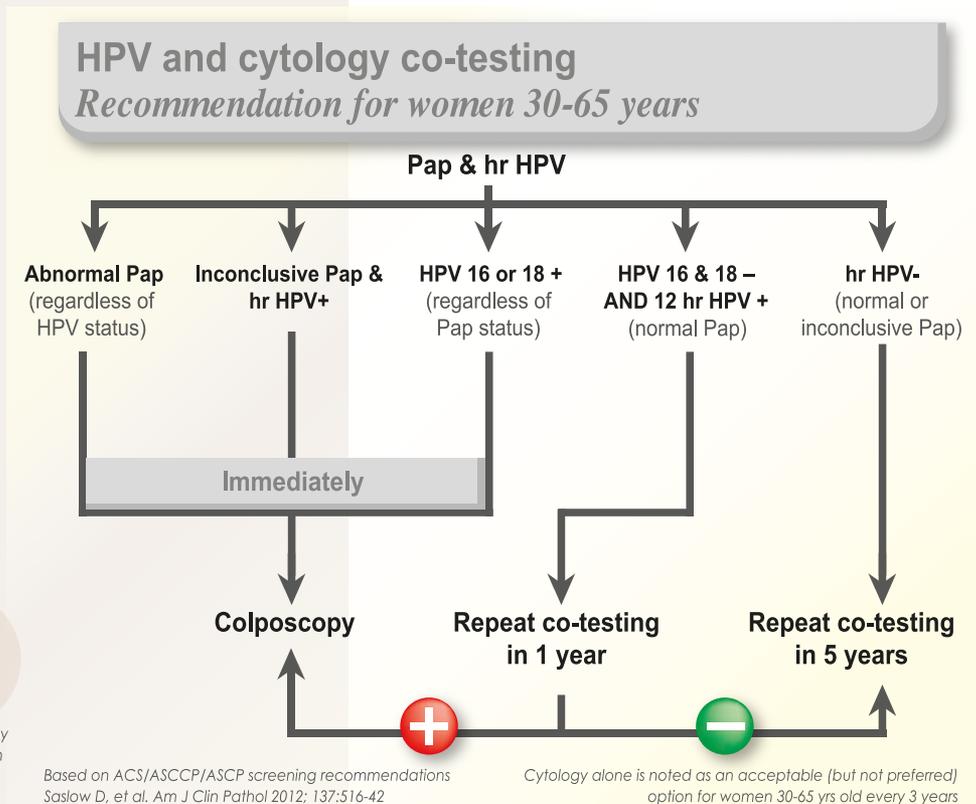


Figure 2: Guidelines recommend cytology and HPV co-testing as a preferred option for women 30-65 years of age, over cytology alone.

## Mission of HKSCCP for cervical cancer screening awareness

Dr. Lam Siu-keung, President of the Hong Kong Society for Colposcopy and Cervical Pathology (HKSCCP) highlighted, a survey conducted from 2004 to 2010 illustrated that only around 60 percent of Hong Kong women between the ages of 25 to 64 took a cervical smear within three years.

“Screening is a crucial step towards cervical cancer prevention. HKSCCP is committed to increasing the public awareness of cervical cancer and encouraging women in Hong Kong to participate in regular screening. With advances in molecular testing and the availability of more reliable HPV DNA tests, the incidence and mortality rate of cervical cancer in Hong Kong can be further reduced”, Dr Lam concluded.



Photo 1: Dr. Lam Siu-keung, President of the Hong Kong Society for Colposcopy, addressed to the press.



Photo 2: Four experts at the press conference organized by HKSCCP.  
From left: Prof. Annie Cheung, Dr. Lam Siu-keung, Dr. Christoph Majewski and Prof. Lee Philip Shulman

## CONCLUSIONS

- Quality control in diagnostic settings of both Pap smear and HPV DNA test is most important.
- Women with HPV 16 or 18 have the greatest risk of developing cervical pre-cancer and cancer.
- Co-testing with Pap smear + HPV DNA testing should be considered as new direction for screening.
- Highly sensitive and specific screening programs are a necessity to reduce the burden of cervical disease.
- Awareness of screening for early detection of cervical cancer is paramount to further decrease incidence of this disease in Hong Kong.

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