

REFERENCES

1. Cain JM, Howett MK. Preventing cervical cancer. *Science*. 2000 Jun 9;288(5472):1753-5.
2. Bosch FX, Lorincz A, Munoz N, Meijer CJ, Shah KV. The causal relation between human papillomavirus and cervical cancer. *J Clin Pathol*. 2002 Apr;55(4):244-65.
3. Felix J. *Apgar: Calposcopy: Principles and practice*. 2008.
4. Settakorn J, Rangdaeng S, Preechapornkul N, Nateewatana S, Pongsiralai K, Srisomboon J, et al. Interobserver reproducibility with LiquiPrep liquid-based cervical cytology screening in a developing country. *Asian Pac J Cancer Prev*. 2008 Jan-Mar;9(1):92-6.
5. Ronco G, Cuzick J, Pierotti P, Cariaggi MP, Dalla Palma P, Naldoni C, et al. Accuracy of liquid based versus conventional cytology: overall results of new technologies for cervical cancer screening: randomised controlled trial. *BMJ*. 2007 Jul 7;335(7609):28.
6. Hantz S, Decroisette E, Caly H, Renaudie J, Dussartre C, Bakeland D, et al. [Testing of a new probe 16/18/45 Hybrid Capture (Digene) in women with high risk HPV infection]. *Pathol Biol (Paris)*. 2009 Feb;57(1):81-5.
7. Siriaunkgul S, Suwiwat S, Settakorn J, Khunamornpong S, Tungsinmunkong K, Boonthum A, et al. HPV genotyping in cervical cancer in Northern Thailand: adapting the linear array HPV assay for use on paraffin-embedded tissue. *Gynecol Oncol*. 2008 Mar;108(3):555-60.
8. Weinstein LC. *Screening and prevention: Cervical cancer, primary care: clinics in office practice*. 2009.
9. Swangvaree SS, Kongkaew P, Rugsuj P, Saruk O. Prevalence of high-risk human papillomavirus infection and cytologic results in Thailand. *Asian Pac J Cancer Prev*. 2010;11(6):1465-8.
10. Clifford GM, Gallus S, Herrero R, Munoz N, Snijders PJ, Vaccarella S, et al. Worldwide distribution of human papillomavirus types in cytologically normal women in the International Agency for Research on Cancer HPV prevalence surveys: a pooled analysis. *Lancet*. 2005 Sep 17-23;366(9490):991-8.
11. Carpenter AB, Davey DD. ThinPrep Pap Test: performance and biopsy follow-up in a university hospital. *Cancer*. 1999 Jun 25;87(3):105-12.

12. Ho GY, Burk RD, Klein S, Kadish AS, Chang CJ, Palan P, et al. Persistent genital human papillomavirus infection as a risk factor for persistent cervical dysplasia. *J Natl Cancer Inst.* 1995 Sep 20;87(18):1365-71.
13. Chansaenroj J, Lurchachaiwong W, Termrungruanglert W, Tresukosol D, Niruthisard S, Trivijitsilp P, et al. Prevalence and genotypes of human papillomavirus among Thai women. *Asian Pac J Cancer Prev.* 2010;11(1):117-22.
14. Boonyanurak P, Panichakul S, Wilawan K. Prevalence of high-risk human papillomavirus infection (HPV) and correlation with postmenopausal hormonal therapy in Thai women aged more than 45 years old. *J Med Assoc Thai.* 2010 Jan;93(1):9-16.
15. Sirimai K, Chalermchockcharoenkit A, Roongpisuthipong A, Pongprasobchai S. Associated risk factors of human papillomavirus cervical infection among human immunodeficiency virus-seropositive women at Siriraj Hospital. *J Med Assoc Thai.* 2004 Mar;87(3):270-6.
16. Bollen LJ, Chuachoowong R, Kilmarx PH, Mock PA, Culnane M, Skunodom N, et al. Human papillomavirus (HPV) detection among human immunodeficiency virus-infected pregnant Thai women: implications for future HPV immunization. *Sex Transm Dis.* 2006 Apr;33(4):259-64.
17. Sukvirach S, Smith JS, Tunsakul S, Munoz N, Kesararat V, Opasatian O, et al. Population-based human papillomavirus prevalence in Lampang and Songkla, Thailand. *J Infect Dis.* 2003 Apr 15;187(8):1246-56.
18. Chandeying V, Garland SM, Tabrizi SN. Prevalence and typing of human papilloma virus (HPV) among female sex workers and outpatient women in southern Thailand. *Sex Health.* 2006 Mar;3(1):11-4.
19. Giorgi Rossi P, Chini F, Bisanzì S, Burrone E, Carillo G, Lattanzi A, et al. Distribution of high and low risk HPV types by cytological status: a population based study from Italy. *Infect Agent Cancer.* 2001;6(1):2.
20. Correnti M, Cavazza ME, Herrera O, Rodriguez A. Presence of human papillomavirus infection determined by hybrid capture assay in cervical lesions in a Venezuelan population. *Invest Clin.* 2010 Mar;51(1):27-35.

21. Wong AK, Chan RC, Nichols WS, Bose S. Invader human papillomavirus (HPV) type 16 and 18 assays as adjuncts to HPV screening of cervical papanicolaou smears with atypical squamous cells of undetermined significance. *Cancer*. 2009 Feb 15;115(4):823-32.
22. Evans MF, Adamson CS, Papillo JL, St John TL, Leiman G, Cooper K. Distribution of human papillomavirus types in ThinPrep Papanicolaou tests classified according to the Bethesda 2001 terminology and correlations with patient age and biopsy outcomes. *Cancer*. 2006 Mar 1;106(5):1054-64.
23. Adams KC, Absher KJ, Brill YM, Witzke DB, Davey DD. Reproducibility of subclassification of squamous intraepithelial lesions: conventional versus ThinPrep paps. *J Low Genit Tract Dis*. 2003 Jul;7(3):203-8.
24. Pacheco MC, Conley RC, Pennington DW, Bishop JW. Concordance between original screening and final diagnosis using imager vs. manual screen of cervical liquid-based cytology slides. *Acta Cytol*. 2008 Sep-Oct;52(5):575-8.
25. Chhieng DC, Talley LI, Roberson J, Gatscha RM, Jhala NC, Elgert PA. Interobserver variability: comparison between liquid-based and conventional preparations in gynecologic cytology. *Cancer*. 2002 Apr 25;96(2):67-73.
26. Stoler MH, Schiffman M. Interobserver reproducibility of cervical cytologic and histologic interpretations: realistic estimates from the ASCUS-LSIL Triage Study. *JAMA*. 2001 Mar 21;285(11):1500-5.



APPENDIX

Table 1: HR-HPV results of 984 screening cases in each category of cervical cytology

Cytology	HR-HPV		Total (%)
	Negative (%)	Positive (%)	
Negative	834 (91.45)	78 (8.55)	912 (100)
ASC-US	15 (48.39)	16 (51.61)	31 (100)
ASC-H	6 (32.29)	11 (64.71)	17 (100)
LSIL	3 (15.79)	16 (84.21)	19 (100)
HSIL	0 (0.00)	5 (100.00)	5 (100)

Table 2: P values from the correlation of HR-HPV detection rate between each pair of cytology Category

Cytology	ASC-US	ASC-H	LSIL	HSIL
Negative	<0.001 ^F	<0.001 ^F	<0.001 ^F	<0.001 ^F
ASC-US		0.026 ^C	<0.001 ^C	0.007 ^F
ASC-H			0.255 ^F	0.266 ^F
LSIL				1.000 ^F

C=Chi-square test, F=Fisher's exact test, n=984 cases

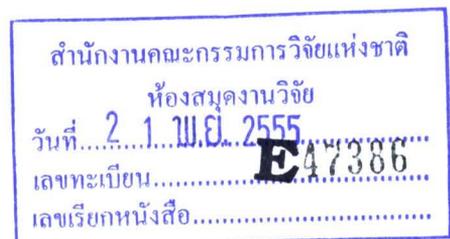


Table 3: The cervical cytology results of 1209 cases from two pathologists

Cytology	Pathologist 1 (%)	Pathologist 2 (%)	Consensus (%)
Normal	1,030 (85.19)	1,065 (88.09)	1039 (85.94)
ASC-US	69 (5.71)	49 (4.05)	64 (5.29)
ASC-H	32 (2.65)	30 (2.48)	27 (2.23)
LSIL	58 (4.80)	48 (3.97)	60 (4.96)
HSIL	18 (1.49)	16 (1.32)	19 (1.57)
AGC	2 (0.17)	1 (0.08)	0 (0)

Table 4: Correlation between cervical cytology results from two pathologists

Pathologist1	Pathologist 2			
	Normal	ASC	SIL	Total
Normal	1,013	17	0	1,030
ASC or AGC	48	47	8	103
SIL	4	16	56	76
Total	1,065	80	64	1,209

CURRICULUM VITAE

Name Mrs. Srisakul Srikamol Koolprasertying

Date of Birth 26 January 1983

Graduate Doctor of Medicine
Faculty of Medicine, Chiang Mai University,
Chiang Mai, Thailand

Position Residency Training in Anatomical Pathology
Department of pathology
Faculty of Medicine
Chiang Mai University
Chiang Mai, 50200, Thailand
Tel: (053) 94-5442

