

BSCC Abstract Template

Lecture Title:	European randomized controlled trials on cervical screening with HPV DNA testing: sensitivity and adverse effects
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Abstract	<p>We analysed the outcomes from the baseline and the subsequent screening rounds in all 6 European randomized controlled trials (RCT) comparing Human Papillomavirus (HPV) DNA testing with cytology: two RCTs from Italy and one from the UK, Sweden, the Netherlands and Finland.</p> <p>The relative baseline detection rate of high-grade cervical intraepithelial neoplasia (\geqCIN3) varied between 0.97 and 2.95 compared to cytology,¹⁻⁴ and this variation was not due to inadequate follow-up in some RCTs.⁵ At the subsequent round, it was significantly lower in the HPV arm than in the cytology arm in 3 out of 5 RCTs with reported data. Based on small numbers, fewer cancers were detected at subsequent screening in the HPV arm in the Dutch and the Italian RCTs.^{3,6}</p> <p>In most RCTs, HPV screening at least doubled the number of false-positive tests, i.e. positive HPV tests without underlying CIN.¹ Cytology triage could reduce excessive referral for colposcopy but not extra repeated testing.⁷ Combined \geqCIN2 detection (baseline+subsequent rounds) was similar in both arms of the Swedish, Dutch and the UK RCTs, whereas it was doubled compared with cytology in the two Italian RCTs.</p> <p>In conclusion, the data on HPV screening support extended intervals, but false-positive tests should be reduced.</p>
Take home message(s)	<p>Relative \geqCIN3 detection rates varied by RCT, but in general they were higher with HPV DNA than with cytology screening.</p> <p>The HPV DNA screening data support extended screening intervals.</p> <p>HPV DNA screening substantially increases the number of false-positive tests and it might also increase over-diagnosis of \geqCIN2.</p> <p>Cytology triage may reduce the extra colposcopy burden but not the extra burden of repeated testing.</p> <p>The key public health challenge is to find an optimal procedure to reduce the number of false-positive HPV DNA tests.</p>

<p style="text-align: center;">References</p>	<p>¹ Lyng E, Rebolj M. <i>Primary HPV screening for cervical cancer prevention: results from European trials</i>. Nat Rev Clin Oncol, 2009;6:699-706.</p> <p>² Kitchener HC, Almonte M, Thomson C et al. <i>HPV testing in combination with liquid-based cytology in primary cervical screening (ARTISTIC): a randomised controlled trial</i>. Lancet Oncol, 2009;10: 672-682.</p> <p>³ Ronco G, Giorgi-Rossi P, Carozzi F et al. <i>Efficacy of human papillomavirus testing for the detection of invasive cervical cancers and cervical intraepithelial neoplasia: a randomised controlled trial</i>. Lancet Oncol, 2010;11:249-257.</p> <p>⁴ Anttila A, Kotaniemi-Talonen L, Leinonen M et al. <i>Rate of cervical cancer, severe intraepithelial neoplasia, and adenocarcinoma in situ in primary HPV DNA screening with cytology triage: randomised study within organised screening programme</i>. BMJ 2010; 340:c1804.</p> <p>⁵ Rebolj M, Lyng E. <i>Incomplete follow-up of positive HPV tests: Overview of randomized controlled trials on primary cervical screening</i>. Br J Cancer. 2010; 103(3):310-4.</p> <p>⁶ Bulkmands NW, Berkhof J, Rozendaal L et al. <i>Human papillomavirus DNA testing for the detection of cervical intraepithelial neoplasia grade 3 and cancer: 5-year follow-up of a randomised controlled implementation trial</i>. Lancet, 2007;370:1764-1772.</p> <p>⁷ Rebolj M, Pribac I, Lyng E. <i>False-positive Human Papillomavirus DNA tests in cervical screening: It is all in a definition</i>. Eur J Cancer (in print).</p>
<p style="text-align: center;">Declaration of interest</p>	<p>No conflict of interest to declare.</p>