

IARC Handbooks of Cancer Prevention Volume 18: Evaluation of cervical cancer screening methods

Lyon, France, 10 November 2021 – A Working Group of international experts was convened by the International Agency for Research on Cancer (IARC) to review and assess all available studies of current methods for cervical cancer screening in terms of their effect on cervical cancer incidence and mortality. A Special Report published today in *The New England Journal of Medicine*¹ summarizes the studies reviewed and presents the conclusions of the Working Group.

The detailed assessments will be published as Volume 18 of the *IARC Handbooks of Cancer Prevention*. Given the major advances in the field, this new evaluation offers an important update to the landmark 2005 *Handbook* on cervical cancer screening.

Cervical cancer is the second most common cancer type and the second most common cause of cancer death in women of reproductive age (15–44 years) worldwide. The highest incidence and mortality rates are generally observed in countries with the lowest values of the Human Development Index. Yet cervical cancer is largely preventable through both vaccination and screening for precursor lesions, with appropriate follow-up and treatment.

“Evaluations of the current screening methods in terms of their impact on cancer incidence and mortality will play a key role in helping to develop efficient public health policies to fight this preventable disease,” says Dr Béatrice Lauby-Secretan, Deputy Head of the Evidence Synthesis and Classification Branch at IARC.

In 2018, WHO called for a global initiative to eliminate cervical cancer as a public health problem. The evaluations from *IARC Handbooks* Volume 18 have been used as a basis to update the *WHO Guideline for Screening and Treatment of Cervical Pre-cancer Lesions for Cervical Cancer Prevention*.

The evaluation

Numerous randomized trials, observational studies, and test accuracy studies were available to the Working Group for the evaluations.

The Working Group reviewed and evaluated the evidence related to the efficacy and effectiveness of screening by means of conventional cytology, liquid-based cytology, HPV nucleic acid testing, visual inspection with acetic acid (VIA), and cytology based on Romanowsky–Giemsa staining.

¹ Bouvard V, Wentzensen N, Mackie A, Berkhof J, Brotherton J, Giorgi Rossi P, et al. The IARC perspective on cervical cancer screening. *N Engl J Med*. Published online 10 November 2021. <https://doi.org/10.1056/NEJMSr2030640>

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Key results

For conventional cytology, liquid-based cytology, and HPV nucleic acid testing, the screening method was established to reduce cervical cancer incidence and mortality and was classified in Group A.

Screening with VIA was established to reduce cervical cancer mortality (Group A), but the evidence for a reduction in cervical cancer incidence was less strong (Group B).

Cytology based on Romanowsky–Giemsa staining was not classifiable as to its capacity to reduce cervical cancer incidence or mortality (Group C).

When HPV DNA testing was compared with either VIA or cytology, HPV DNA testing showed higher effectiveness and a better balance of benefits versus harms.

Classification system

The *IARC Handbooks* use a classification system based on strict and transparent criteria. For reference, see <https://www.iarc.who.int/infographics/iarc-handbooks-evaluations-of-secondary-prevention/>.

Group A: The cancer screening method is established to reduce the incidence of cancer of the target organ or to reduce mortality from cancer of the target organ.

Group B: The cancer screening method may reduce the incidence of cancer of the target organ or may reduce mortality from cancer of the target organ.

Group C: The cancer screening method is not classifiable as to its capacity to reduce the incidence of cancer of the target organ or to reduce mortality from cancer of the target organ.

Group D: The cancer screening method may lack the capacity to reduce the incidence of cancer of the target organ or to reduce mortality from cancer of the target organ.

Note to Editors

About the *IARC Handbooks*:

The *IARC Handbooks of Cancer Prevention* provide evaluations of the cancer-preventive potential of strategies and interventions. Each volume is produced by an international Working Group of experts. The series was relaunched in 2014 with a reassessment of breast cancer screening.

For more on the *IARC Handbooks*, see <https://handbooks.iarc.fr/>.

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The International Agency for Research on Cancer (IARC) is part of the World Health Organization. Its mission is to coordinate and conduct research on the causes of human cancer and the mechanisms of carcinogenesis, and to develop scientific strategies for cancer control. The Agency is involved in both epidemiological and laboratory research and disseminates scientific information through publications, meetings, courses, and fellowships. If you wish your name to be removed from our press release emailing list, please write to com@iarc.fr.