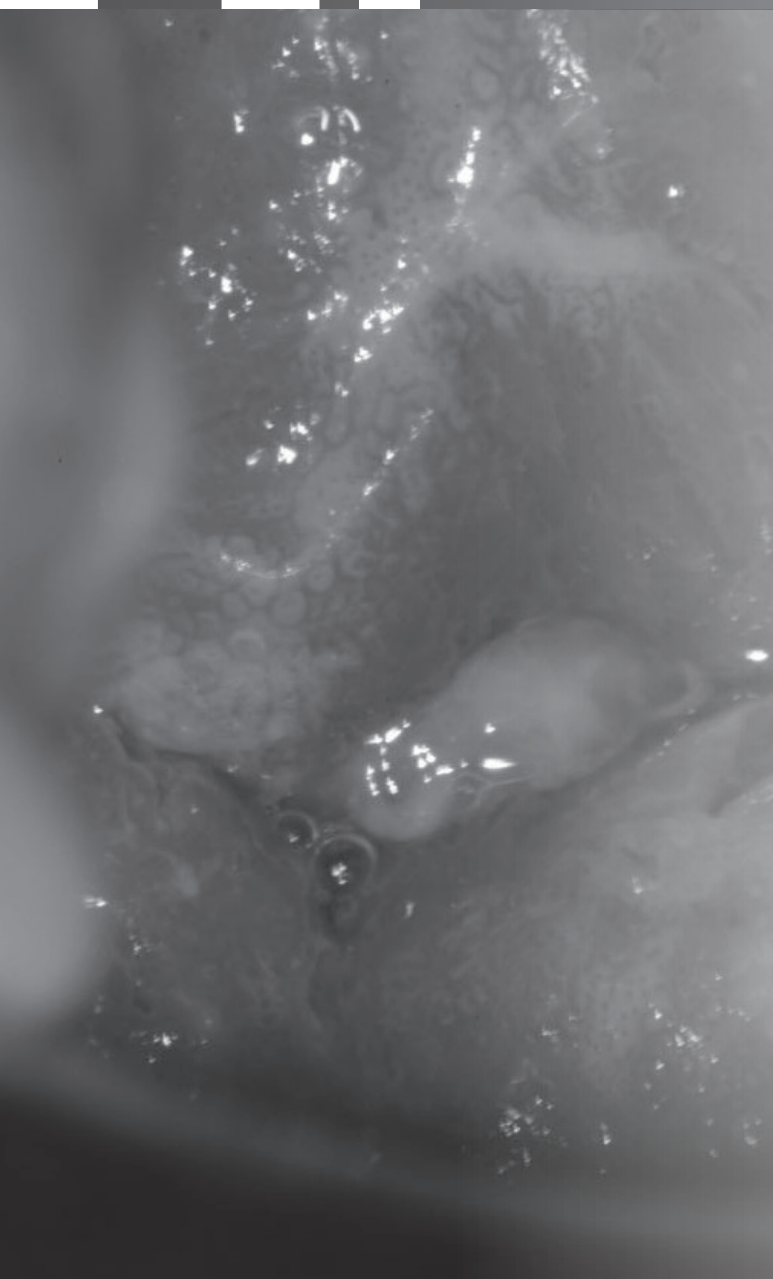
IARC HANDBOOKS



CERVICAL CANCER SCREENING

VOLUME 18

This publication represents the views and expert opinions of an IARC Working Group on the Evaluation of Cancer-Preventive Interventions, which met remotely, 12–16 October 2020

LYON, FRANCE - 2022

IARC HANDBOOKS OF CANCER PREVENTION

International Agency for Research on Cancer

World Health Organization

Table 4.36 Meta-analysis and reviews to evaluate the accuracy of colposcopy as a diagnostic method[a]

Reference	No. of studies No. of women included Years of studies searched	Inclusion criteria	Intervention	Outcome	Accuracy for HSIL/CIN2+ (%)[b]	
					Sensitivity	Specificity
Mitchell et al. (1998)	9 6281 1969–1996	Studies including patients with abnormal screening Pap test result and presenting raw data showing, for each type of cervical lesion, the number of patients judged positive and negative by colposcopic impression versus the standard of colposcopic biopsy results	Colposcopy-directed biopsy in women referred with abnormal cytology	Accuracy of colposcopy to predict histological diagnosis	Weighted mean, 96 (range, 87–99) at a threshold of "any colposcopic abnormality" Weighted mean, 85 (range, 30–99) at a threshold of "HSIL+ colposcopic impression"	Weighted mean, 48 (range, 23–87) at a threshold of "any colposcopic abnormality" Weighted mean, 69 (range, 39–93) at a threshold of "HSIL+ colposcopic impression"
Olaniyan (2002)	8 6708 1969–2000	Original publications in which colposcopy was done as a diagnostic procedure after referral and biopsy was colposcopically directed. A colposcopic impression should have been recorded before the biopsy outcome, with the presentation of adequate data showing the colposcopic impression compared with the final histological diagnosis for the various disease categories	Colposcopy-directed biopsy in women referred with abnormal cytology	Accuracy of colposcopy to predict histological diagnosis	Range, 87–99 at a threshold of "any colposcopic abnormality" Range, 30–90 at a threshold of "HSIL+ colposcopic impression"	Range, 26–87 at a threshold of "any colposcopic abnormality" Range, 67–97 at a threshold of "HSIL+ colposcopic impression"
Mustafa et al. (2016)	12 6370 1984–2011	Previously published systematic reviews and prospective or cross-sectional observational primary studies including non-pregnant women that assessed and compared the accuracy of at least 2 screening tests (HPV testing, cytology, VIA, or colposcopy) in the same group of women. Studies with a minimum of 100 women were also included to decrease imprecision and risk of bias	Colposcopic impression (with or without directed biopsy) in women referred with positive HPV test result or abnormal cytology	Accuracy of colposcopy to predict histological diagnosis	95 (range, 29–100) at a threshold of "any colposcopic abnormality"	42 (range, 12–88) at a threshold of "any colposcopic abnormality"

Table 4.36 Meta-analysis and reviews to evaluate the accuracy of colposcopy as a diagnostic method[a]

Reference	No. of studies No. of women included Years of studies searched	Inclusion criteria	Intervention	Outcome	Accuracy for HSIL/CIN2+ (%)[b]	
					Sensitivity	Specificity
Brown & Tidy (2019)	18 10 973 1973–2019	Publications containing sufficient raw data to enable diagnostic accuracy statistics to be calculated for HSIL/CIN2+ detection determined by punch biopsy. In addition, both the colposcopic impression at the time of examination and the disease threshold used to determine the need for biopsy must have been reported	Colposcopy-directed biopsy in women referred with abnormal cytology	Accuracy of colposcopy to predict histological diagnosis 2 methods used: "Colposcopic impression", indicating that the outcome of colposcopy was an impression that CIN2+ was present (records the opinion of the colposcopist and not what action was taken as a consequence) "Disease present", indicating that there was disease present, usually described as CIN1+, and therefore a biopsy was taken to confirm or exclude the presence of CIN2+	96 (range, 83–100) at a threshold of "any colposcopic abnormality" 68 (range, 30–95) at a threshold of "HSIL+ colposcopic impression"	34 (range, 5–67) at a threshold of "any colposcopic abnormality" 76 (range, 48–97) at a threshold of "HSIL+ colposcopic impression"

CIN1+, cervical intraepithelial neoplasia grade 1 or worse; CIN2+, cervical intraepithelial neoplasia grade 2 or worse; HSIL+, high-grade squamous intraepithelial lesion or worse.

[a] Note that verification bias could be a partial explanation for the wide range of published diagnostic accuracy of colposcopy. It is not usually possible to remove verification bias, because in most of the studies biopsies are not usually taken where no disease was seen on colposcopic examination. A consequence of verification bias would be that reported values for sensitivity are higher than the true values.

[b] Threshold of "any colposcopic abnormality": biopsy taken because there is thought to be some disease present. Threshold of "HSIL+ colposcopic impression": biopsy taken because colposcopic impression of HSIL+ is present.

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