

Resource-Based Good Clinical Practice Recommendations for Colposcopy Standards and Quality Assurance in Colposcopy Practice

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Objective: Quality of colposcopy determines accurate diagnosis and treatment planning. India and low-middle income countries have varied resource settings offering colposcopy services; this group's objective was to develop defined standards for colposcopy with quality assurance in them to reach the goal of cervical cancer elimination.

Methods: An expert group comprising colposcopists, gynecologists, and gynecologic oncologists collated existing literature and guidelines. A framework applicable to India and similar low-middle income countries with diverse resources for providing colposcopy services in a standardized manner, stratified according to basic and advanced colposcopy centers, was formulated and circulated among experts. The revised version was deliberated in a face-to-face meeting to finalize the standards. Public comments were incorporated in the final document.

Results: Basic and advanced colposcopy centers were defined; essential and desirable components at these centers were specified. Recommendations for quality assurance evaluation and audits of ongoing services at both types of centers were also defined. Guidelines and recommendations for advanced centers suited for training were made.

Conclusions: These good clinical practice recommendations will guide the provision and assessment of colposcopy services and can be widely applicable to all low-middle income countries.

Key Words: colposcopy, cervical screening, quality assurance, audit, LMIC, resource-based, standards

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Cervical cancer is the fourth most common gynecological cancer in world with an estimated 662,301 new cases and 348,874 deaths in 2022.¹ Low-middle income countries (LMICs) contribute to 84% of new cases and 87%–90% of deaths.² The World Health Organization (WHO) recommends high precision tests, preferably human papillomavirus (HPV) testing for cervical screening.³ Higher sensitivity of HPV tests results in more women referred for triage and confirmation of diagnosis. Colposcopy is an indispensable method to triage screen-positive women, to locate and treat preinvasive lesions effectively⁴; it however, needs proper training, expertise, and efficiently administered colposcopy services.

Quality assurance (QA) is defined as “all planned and systematic activities implemented within the quality system that can be demonstrated to provide confidence that a product or service will fulfil requirements for quality”⁵; our objective was to define standards for colposcopy with QA in colposcopy centers.

METHODS

An expert group consisting of colposcopists, gynecologists, and gynecologic oncologists specialized in cervical cancer prevention and representing all major professional societies in India was formed. They formulated pertinent questions, reviewed existing literature using Population, Intervention, Comparison and Outcome framework and analyzed guidelines from international organizations including Cervical Check Ireland, British Society for Colposcopy and Cervical Pathology, American Society for Colposcopy and Cervical Pathology, Spanish Association of Cervical Pathology and Colposcopy, European Federation for Colposcopy, etc. for relevance to India and LMICs.^{6–10} Through interactive discussions during face-to-face meeting, a consensus on standardized protocols was achieved, presented at a regional conference, placed in the public domain, and circulated among field experts and other members of relevant organizations for concurrence. The list of proposed QA standards was refined and finalized to derive specific proposed quality indicators for LMICs. Checklists for setting up of basic (BCC) colposcopy center and advanced colposcopy center (ACC), for diagnosis, treatment, and audit, have been developed as ready reckoners (see - Tables 1–4).

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RESULTS and DISCUSSION

Resource Stratification

Good Practice Recommendations for colposcopy centers at different levels of health facilities are stratified as basic or advanced.

Since the individual components of facilities and expertise available at these settings are very variable, each parameter of colposcopy standards is further designated as “essential” [E] or “desirable” [D].

I: Colposcopy Clinic

• 1.1a: Clinic organization

All facility types must have clear signage from entry point regarding availability of colposcopy services, a reception area for registration, waiting area with information displayed in the form of posters/leaflets/videos. A designated area for colposcopy with special provision for those with disabilities are essential at ACC and desirable at BCC. Electrical and fire safety preparedness in essential at all sites.

TABLE 1. Checklist for Requirements of a Basic Colposcopy Center (BCC)

Checklist for requirements of a basic colposcopy center

Essential requirements	Yes/no	Desirable requirements	Yes/no
Colposcopy clinic Electrical and fire safety preparedness		Designated area for colposcopy	
Clinic organization			
Access area			
Clear signage from entry regarding availability of colposcopy services		Provision for those with disabilities	
Reception area for registration and waiting		Information materials (leaflets) for patients	
Clinical area			
Table for examination in dorsal position		Examination couch with leg rest stirrups	
Provision of screen, confidentiality of patients			
Universal precautions for patient handling			
Equipment and chemicals for disinfection/sterilization			
Segregated waste disposal as per biomedical waste disposal guidelines			
Toilet facilities for patients			
Regular water and power supply			
Adequate equipment safety guidelines			
Registers for maintenance of patient records, procedure details (hard/soft copy, images), biopsy/test results, and follow-up		Computerized patient record management system; space for secured storage of colposcopy records/digitalized colposcopy data entry system	
Equipment and drugs			
Working colposcope, instruments, and back-up facilities			
Consumables for colposcopy (distilled water, normal saline, glacial acetic acid, Lugol's iodine, swab sticks, cotton swabs, cotton pad, surgical gloves, condoms, formaldehyde, measuring cylinder and biopsy container)		Monsel's paste/silver nitrate, roller gauze	
Equipment for thermal ablation/cryotherapy			
Emergency drugs		Resuscitation equipment	
Clinical staffing and duties			
Trained colposcopist		Services of a qualified pathologist available	
Documentation of colposcopy report in a standard format (IFCPC, Swede Score) Maintenance of patient records, procedure details (hard/soft copy, images), biopsy/test results, and follow-up			
Health worker to assist procedure, facilitate cleaning and disinfection of clinic area and sterilization of instruments			
Patient friendly and respectful behavior of service providers			
Staff trained on usage, storage, and safety of equipment			
Consent and pre-procedure/post-procedure counseling of women			
Appointments			
Timely appointment following referral for colposcopy in 90% patients as per the following situations:			
Colposcopy within 8 weeks in screen-positive patients, not suspicious of invasive cancer or high-grade disease		Colposcopy within 4 weeks in screen-positive patients, not suspicious of invasive cancer or high-grade disease	
Linkage with referral center			

TABLE 2. Checklist for Requirements of an Advanced Colposcopy + Training Center (ACC)**Checklist for requirements of an advanced colposcopy ± training center**

Essential requirements	Yes/no	Desirable requirements	Yes/no
Clinic organization			
Designated area for colposcopy			
Electrical and fire safety preparedness			
Access area			
Clear signage from entry regarding availability of colposcopy services			
Reception area with a waiting area		Information materials (leaflets/videos) for patients	
Special provision for those with disabilities			
Clinic area			
Examination couch with leg rest stirrups		Facility for height and tilt adjustment	
Provision of screen/curtains, confidentiality of patients			
Universal precautions for patient handling			
Equipment and chemicals for disinfection/sterilization			
Color-coded waste disposal bins as per biomedical waste disposal guidelines			
Recovery area, toilet facilities for patients			
Regular water and power supply with backup; oxygen supply			
Adequate equipment safety guidelines			
Computer/registers for maintenance of patient records, procedure details (hard/soft copy, images), biopsy/test results, and follow-up		Computerized patient record management system	
Equipment and drugs			
Working colposcope, instruments, and consumables for colposcopy and biopsy; back-up facilities		Attached camera to capture image/video monitor/teaching attachment	
Consumables for colposcopy: Distilled water, normal saline, glacial acetic acid, Lugol's iodine, Monsel's paste/silver nitrate, toluidine blue; measuring cylinder, swab sticks, cotton swabs, cotton pads, roller gauze, surgical gloves, condoms, formaldehyde			
Equipment for thermal ablation/cryotherapy and LLETZ			
Facilities for cold knife conization			
Emergency drugs and resuscitation equipment			
Clinical staffing and duties			
Experienced colposcopist; nomination of deputy to provide cover when needed		Colposcopy trained nurse/staff nurse	
Documentation of colposcopy report in a standard format (IFCPC, Swede Score)			
Services of a qualified pathologist available			
Patient friendly and respectful behavior of service providers			
Staff trained on usage, storage and safety of equipment			
Clinical nursing care assistant/trained personnel to facilitate cleaning and disinfection of clinic area and sterilization of instruments			
Consenting; pre-procedure/post-procedure counseling of women			
Administrative area			
Space for secured storage of colposcopy records/digitalized colposcopy data entry system		Secretarial staff with phone number for appointments, effective tracking of reports, calling patients for follow-up	
Appointments			
Timely appointment following referral for colposcopy in 90% patients as per following situations:			
i. Colposcopy as soon as possible, in patients with suspected invasive cancer or high-grade disease		i. Colposcopy as soon as possible in patients with suspected invasive cancer or high-grade disease	
ii. Colposcopy within 8 weeks in screen-positive patients		ii. Colposcopy within 4 weeks in screen-positive patients	
Requirements for training center			
Lecture room with audiovisual facilities		Library/video viewing facilities	

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TABLE 2. (Continued)

Checklist for requirements of an advanced colposcopy ± training center

Essential requirements	Yes/no	Desirable requirements	Yes/no
At least 50 colposcopies to be performed per month			
<ul style="list-style-type: none"> • Facilities for training on screening modalities, colposcopy, treatment of preinvasive lesions • Interactive sessions and hands-on sessions • Logbook maintenance • Pre-training and post-training test assessment • Certification of “completion of training” by appropriate authorities 			

1.1b: Administrative Area

Secured storage of colposcopy records is essential at both ACC and BCC in the form of registers, hard/soft copy of reports, images, biopsy/test results, and follow-up in a dedicated administrative support area.

A computerized management system is desirable at both ACC and BCC. Secretarial staff with phone number for

appointments, effective tracking of reports, and calling patients for follow-up is desirable.

• **1.1c: Clinical area**

The following are essential at both ACC and BCC: maintaining patient privacy (provision of curtains/screens), confidentiality, provision of an examination couch, essential

TABLE 3. Checklist for Colposcopic Diagnosis Audit

Checklist for colposcopic diagnosis audit

Essential requirements	Yes/no	Desirable requirements	Yes/no
Colposcopic diagnosis			
Documentation of colposcopy findings as per IFCPC reporting format in 100% cases		Recording of reasons for not performing a biopsy in > 90%	
Adequate biopsy in the presence of abnormal colposcopy findings in > 90% cases			
Biopsy if invasion or high/major grade disease is suspected in 100% cases			
Audit of colposcopy services			
Evidence-based guidelines in place, regularly reviewed and updated			
Defined quality assurance standards and indicators are being met			
Collection of accurate data and annual audit			
Coordination of training of staff			
Regular multidisciplinary and administrative meetings			
Timely dispatch of specimens to the laboratory			
Audit to maintain the standards of a colposcopy clinic			
-Regular meetings between colposcopists, nursing staff, and hospital administration and appropriate corrective measures			
-At least 1 organizational and 1 clinical audit per year			
Audit points			
Waiting time for appointments			
Maximum default rate in patients ~10%			
Tracking system for biopsy specimens and reports			
Audit of logs of colposcopic performance monthly			
-No. of colposcopies per month			
-No. of colposcopy-guided biopsies per month			
Assessment of quality of colposcopy			
-Equipment log-			
• Documentation of equipment failures and actions taken to correct them			
• Equipment maintenance			
• Review of equipment record to ensure valid AMC			
-Display of operating instructions			
Documentation		Waiting time lists are updated on time	
- Availability of standardized forms for documentation of colposcopic findings			
- Appropriate arrangements for follow-up, documentation of follow-up visits			
- Maintenance of computerized record system/registers		System to track patient reports and follow-up	

TABLE 4. Checklist for CIN Treatment and Its Audit**Checklist for CIN treatment and its audit**

Essential requirements	Yes/no	Desirable requirements	Yes/no
Treatment of CIN			
>90% of precancerous lesions treated			
>90% treated under local anesthesia/day care			
Biopsy should be performed before ablative treatment and review of biopsy report at follow-up in >95%		Recording of reasons for not performing a biopsy in > 95%	
Excision of LLETZ specimen preferably as a single piece in >80%			
>85% patients treated by excisional techniques have CIN 2+ on histology			
Cone biopsy (LLETZ/cold knife conization) in > 95%, if lesion is not suitable for ablation			
>90% patients at ≥ 50 years with \geq CIN 2 at endocervical margin and all women with adenocarcinoma in situ at any margin have a repeat excision to obtain clear margins/hysterectomy within 12 weeks			
6 monthly follow-up of patients with positive margins showing \leq CIN 2 and < 50 years for 2 years by Pap smear/HPV testing and repeat excision performed for persistent disease			
Concordance between colposcopic impression of high-grade disease and histologically proven high-grade CIN is >65%			
Colposcopy in pregnancy			
Colposcopy performed using the same criteria as for nonpregnant in >95% cases			
Biopsy and treatment are usually deferred until postpartum period except where there is a suspicion of invasive disease in >80% cases			
If low-grade CIN suspected at colposcopy, repeat colposcopy 12 weeks after delivery in >95% women			
If high-grade CIN suspected, repeat colposcopy in every trimester and 6 weeks after delivery, in >95% women			
If there is a suspicion of invasive disease, biopsy performed in 100% women			
Follow-up after treatment			
Follow-up testing within 12 months following treatment in >90% women			
Colposcopy performed in >95% patients who test positive for HR-HPV at 12 months after treatment			
>95% patients who test negative for HR-HPV 12 months after treatment for CIN return to routine screening (5 years)			
<5% Recurrent CIN within 24 months of treatment			
Follow-up after hysterectomy			
No follow up required if there was no CIN in hysterectomy specimen. Patients who test negative for HR-HPV/co-test 12 and 24 months after hysterectomy showing completely excised CIN are discharged (no further screening) from the cervical screening. If excision was incomplete/histopathology unavailable follow-up with co-testing continue 6,12 months, and annually till 20 years >95%			
If HR-HPV positive, colposcopy is performed within 3–6 months and further screening determined accordingly			
Follow-up of patients who have not been treated			
ASCUS and HPV negative are followed up at 3 years ² , if repeat \geq ASCUS, colposcopy done			
Young patients (<30 years) with CIN 1/2 are followed up 6 monthly for 2 years and persistent disease at 2 years are offered treatment			
Audit of treatment			
Evidence-based guidelines in place, regularly reviewed and updated			
Defined quality assurance standards and indicators are being met			
Collection of accurate data and annual audit			
Coordination of training of staff			
Regular multidisciplinary and administrative meetings			
Timely dispatch of specimens to the laboratory			

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TABLE 4. (Continued)

Checklist for CIN treatment and its audit

Essential requirements	Yes/no	Desirable requirements	Yes/no
Multidisciplinary team including colposcopists, cytologists, histopathologists, gyne consultant/gyne oncologists, meeting coordinator/nodal officer			
Frequency of MDT meeting Once/month for smaller units Twice/month larger units			
Annual audit of MDT meetings			
Audit to maintain the standards of colposcopy clinic -Regular meetings between colposcopists, nursing staff and hospital administration and appropriate corrective measures -At least 1 organizational and 1 clinical audit per year			
Audit points Waiting time for appointments Time to treat cancer or high-grade lesion Tracking system for specimens and reports			
Audit of logs of colposcopic treatment performance monthly -No. of patients treated by ablative methods -No. of patients treated by LLETZ/conization -Percentage of treatment under local anesthesia			
Assessment of quality of treatment -Rate of false-negative histology at excisional histological examination -Equipment log- • Documentation of equipment failures and actions taken to correct them • Equipment maintenance • Review of equipment record to ensure valid Annual Maintenance Contract (AMC) Display of operating instructions		Updated information systems (videos/leaflets) for patients Waiting time lists are updated on time	
Documentation -Proper documentation of treatment procedures performed and follow-up visits -Appropriate arrangements for follow-up -Maintenance of computerized record system/registers			
Cleaning, disinfection, and sterilization -Presence of functional infection control committee -Adequate cleaning, disinfection, sterilization of instruments, and equipment			
Biomedical waste management -Process for segregation, transportation, disposal, and management of biomedical waste -Staff must know about management of needle stick injuries			
		System to track patient reports and follow-up -Monitoring of infection control practices	
		Patient Satisfaction Survey -Grievance Redressal System to deal with patient complaints -Preparation of action plan to improve patient satisfaction	

equipment and chemicals for the procedure, disinfection/sterilization, and segregated waste disposal. A dedicated recovery area; backup for electrical failure is essential at ACC and desirable at BCC.

1.1d: Equipment and Drugs

All colposcopy clinics must have a working colposcope, an instrument tray with sterile instruments (Cusco's specula of different sizes, endocervical speculum, appropriate biopsy forceps

(Tischler forceps), sponge holder, endocervical curette, consumables for colposcopy and biopsy including distilled water, normal saline, glacial acetic acid, Lugol's iodine, Monsel's paste/silver nitrate, toluidine blue, containers with formalin for biopsy specimens, swab sticks, cotton swabs, cotton pad, surgical gloves, condoms, and sterile gauze. Emergency drugs are essential at all centers. A camera incorporated/attached to the colposcope to capture images; video monitor/teaching attachment is essential for training at ACC.

Equipment for cryotherapy or thermal ablation must be available at all centers. Electrosurgical unit for large loop excision of transformation zone (LLETZ) and facilities for cold knife conization must be available at ACC. Adequate safety guidelines for their use must be available.¹¹ Resuscitation equipment with staff trained in its use is required (Essential at ACC; Desirable at BCC)

• 1.1e: Clinical Staffing and Duties

Qualified colposcopists as defined in the section below must be available (ACC and BCC: E). The in-charge colposcopist should ensure the following: patient friendly behavior, documentation of colposcopy report in a standard format, maintenance of patient records, annual audit of the services, coordination of training, and regular multidisciplinary and administrative meetings. A deputy must be nominated to take over the duties in the absence of in charge colposcopist.^{6,7,9}

Colposcopy Nurse The colposcopy nurse must support the colposcopist in development and review of standard operating procedures, patient information systems, ensure the maintenance of standards within the clinical environment, and timely dispatch of specimens to the laboratory. He/she must ensure that the staff is adequately trained on usage, storage and safety of equipment. There should be a colposcopy trained nurse/staff nurse (1 per center) at ACC and a staff nurse/trained health worker at BCC to assist the colposcopist in all procedures including biopsies and treatment. A deputy should be nominated to take over the duties in the absence of main colposcopy nurse (ACC: E; BCC: D).

Clinical nursing care assistant/trained health worker is necessary to assist the procedure and facilitate cleaning and disinfection of clinic area and sterilization of instruments (E: ACC and BCC). Services of a qualified pathologist must be available (essential at ACC; may be outsourced at BCC).

1.2: Maintenance of Patient Records and Follow-up

1.2a: Consent and Communication (E at ACC and BCC)

Counseling regarding the screen-positive report, procedure of colposcopy, biopsy, and treatment should be explained. A written consent should be obtained, including consent for single-visit approach in case of a high-grade abnormality being detected. After colposcopy counseling with documentation regarding the result, treatment options and follow-up are essential with the communication to the referring doctor.

1.2b: Reporting of Colposcopy Findings

Colposcopic findings should be reported in a standard format, according to International Federation of Colposcopy and Cervical Pathology 2011 terminology and Swede Score (ACC and BCC: E).⁴

In a screen, see-and-treat approach, 100% cases should have colposcopy and biopsy before treatment for abnormal screening tests at BCC and ACC.¹⁰

1.3: Referral Times (ACC, BCC: E)

Timely appointments as per guidelines following receipt of referral should reach minimum target of 90%.⁶ Patient with suspicion of invasive cancer (on clinical examination or screening test) or high-grade disease should have colposcopy and biopsy as soon as possible; abnormal glandular cells on cytology should be referred

to ACC directly. All other screen-positive patients should have colposcopy within 8 weeks, preferably within 4 weeks. BCC should be linked to referral centers for optimum management if needed.

1.3a: Management of Patients Who Default

The maximum default rate should be set at 10% at both ACC and BCC.⁶ Local contextual policies must be established to ensure proactive outreach to women who default on their appointments or treatment.

2: Essentials of Colposcopist, Training Centres, and Trainers

2.1: Qualification of Colposcopist

The minimum qualifications for performing colposcopy include residency/postgraduate training in obstetrics and gynecology/ community medicine/public health/training in preventive oncology/ medical doctor with accredited training in colposcopy. A qualified nurse with accredited training by appropriate authorities (in special cases) is also eligible.

For maintenance of competence, all colposcopists should see at least 50 new cases suggestive of high-grade disease annually and should pursue CME opportunities⁷ (ACC, BCC: D).

2.2: Training Center

Training in colposcopy and treatment is permissible only at ACC with a case load of at least 50 colposcopies per month.¹² It should be well-equipped (see “Setting up a colposcopy clinic”) with access to operating facilities, lecture room/seminar room with audiovisual facilities. Hands-on training facilities are essential.

2.3: Qualifications of a Trainer

The trainer should be a certified colposcopist as defined in section “Qualification of colposcopist” with at least 3 years of experience in performing colposcopy.¹²

2.4: Who Can Be a Trainee?

See section 2.1 “Qualification of colposcopist.”

2.5: Training Curriculum

A batch of trainees for hands-on training sessions should be <5.¹² The curriculum should include screening by various modalities, procedure of colposcopy, reporting and biopsy, principles of management of preinvasive lesions, treatment procedures, and follow-up. The content should include at least 10 hours of didactic sessions, interactive sessions with clinical case scenarios and hands-on sessions in colposcopy. The trainee should perform a minimum of 50 colposcopies on screen-positives (30 under supervision and 20 independently), at least 5 ablative procedures and 3 excisional procedures under supervision. Pre-training and post-training assessment (multiple-choice questions and case-based viva) must be conducted. Completion of training certificate is to be awarded at the end of the training.

3. Colposcopic Diagnosis and Treatment

3.1: Diagnosis (at ACC and BCC)

Documentation of colposcopy findings in 100% cases should be as per IFPC 2011 format; adequacy of colposcopy, type of TZ, and any abnormal findings must be documented.^{8,9}

Any acetowhite area seen should preferably be scored by the Swede score. Adequate biopsy (minimum 7 mm) should be taken from areas of abnormal colposcopy findings in > 90% cases, and in 100% cases if invasion or high/major grade disease is suspected. Reasons for not performing a biopsy must be noted in > 90% cases (D). Biopsy should be performed before ablative treatment and reviewed at follow-up in >95% cases. The sensitivity of biopsy is better if at least 2 samples are taken.¹³ Biopsy may not be representative in case of type 3 transformation zone for which an excisional procedure is recommended.¹³ If feasible, a 3- to 12-week course of intravaginal estrogens can be given before colposcopy in postmenopausal women. Condom, ultrasound head cover, or glove finger can be used for adequate exposure in women with lax vaginal walls. Women with atypical glandular cells on cytology should also have endocervical curettage, endometrial biopsy if >35 years or <35 years with unexplained vaginal bleeding, chronic anovulation, or obesity.¹⁴

3.2: Treatment

Majority of the precancerous lesions (>90%) should undergo treatment adhering to eligibility criteria and guidelines of the WHO.^{15,16} Ablative/LLETZ treatment should be performed in an outpatient setting under local anesthesia/day care in >90%.⁶ Conization (LLETZ/cold knife conization) should be done in >95%, if lesion is not suitable for ablation. Referral to ACC from BCC is needed when there are discordant reports or excisional procedure is required. Excisional techniques should have cervical intraepithelial neoplasia (CIN) 2+ on histology in >85% cases.⁶ The specimen should preferably be excised as a single specimen to maximize interpretation of margins in >80% cases.⁶ If \geq CIN 2 is found at the endocervical margin or adenocarcinoma in situ is found at any margin, a repeat excision is indicated if the woman is \geq 50 years to obtain clear margins. Alternatively, a hysterectomy may be performed within 12 weeks in >90% cases.^{4,14,17,18} If the cone margins show \leq CIN 2 in a woman <50 years; follow-up is advised 6 monthly for 2 years by cytology/HPV testing and repeat excision performed for persistent disease.^{4,17,18} Type of excision should match type of TZ⁶ in >95%, the depth being 7–10 mm in type I; 10–15 mm in type II, and 15–25 mm in type III TZ.

3.3: Clinical Care/Safety (at ACC and BCC)

Positive predictive value: Concordance between high-grade disease on colposcopy and histological high-grade CIN should be >65%.⁶

4. Management of Complex Cases and Follow-Up

Complex cases should be managed at ACC. These include: pregnancy; HIV or immunocompromised women; multizonal disease; recurrence; discordant cytological, colposcopic and histological findings; atypical glandular cells; and all cases of invasive cervical cancer.

4.2: Pregnant Women

The aim of colposcopy in pregnancy is to rule out invasive cervical cancer and reassure the woman that her pregnancy will not be affected by the abnormal screening test result.^{6,7,14} Criteria are the same as for nonpregnant. Colposcopy should be performed by an experienced colposcopist at ACC due to increased vascularity, and mucous discharge (E). Biopsy and treatment are usually postponed till postpartum except in the presence of suspicious invasive disease. If low-grade CIN is suspected at colposcopy, a repeat colposcopy should be done 12 weeks after delivery in >95% cases. If case of suspicion of

high-grade CIN, colposcopy should be repeated in every trimester as well as 6 weeks after delivery, biopsy is taken if invasive cancer is suspected (desired target 100%, minimum target >95% cases). Patients should be informed that they could have spotting 48 hours after procedure.⁶

4.2: Women Who Become Pregnant While Waiting for Colposcopy appointment

Colposcopy can be postponed until 12 weeks postpartum for those treated for CIN or having atypical squamous cells of undetermined significance/low-grade squamous intraepithelial lesion on Pap smear.⁶ Colposcopy for any glandular abnormality or incompletely treated CIN 2/3 before pregnancy should be performed during the second trimester.

4.3: Immunocompromised/HIV-Positive Patients

Indications of colposcopy and management specified is as per WHO guidelines (E) for whom universal precautions are mandatory.³

4.4: Follow-up

Follow-up after treatment should be by HPV testing 12 months after treatment³ (desired standard 100%, minimum >90%); colposcopy is indicated if positive (desired standard 100%, minimum >95%).³ If negative, routine screening is advised every 5 years³ (desired standard 100%, minimum >95% cases). WLHIV (women living with HIV) should have 2 negative tests before discharge to routine screening.² Recurrent CIN within 24 months of treatment should be very low (desired standard nil, minimum <5%) and should be managed at ACC.

Follow-up after hysterectomy is not needed if there was no CIN in their hysterectomy specimen. No further screening is required in women who test negative for HR-HPV/cytology 12 and 24 months after hysterectomy showing completely excised CIN.⁴ If excision was incomplete/histopathology is unavailable, follow-up with co-testing should continue at 6 and 18 months and then annually for 20 years (target >95% patients).^{3,4} If no abnormal results are found, they may exit the screening program. If HR-HPV is positive, perform colposcopy within 3–6 months and further screening determined accordingly.^{6,7}

4.5: Follow-up of Patients Who Have Not Been Treated

Colposcopy is indicated if Pap smear repeatedly shows ASC-US and HPV is negative.³ Young patients (<30 years) with CIN 1/2 should be followed up 6 monthly for 2 years and those with persistent disease at 2 years should be offered treatment.⁷

5. Multidisciplinary Team (MDT) at ACC

5.1: Role of Multidisciplinary Team

To confirm the cytology/pathology findings, discuss the management of discordant cases and formulate the management plan (E).^{6,7}

5.2: Members of MDT

Should include colposcopist, cytologist, histopathologist, and gynecologist/gyne oncologist as per case requirement. One person is appointed as meeting coordinator for scheduling meetings, selecting cases and sending invites to the members of the team.

5.3: Frequency of MDT Meeting

Monthly for smaller units and once or twice per month for larger units.

5.4: Standard Operating Procedures of MDT Meeting (E)

Cases should be identified and the list circulated to all team members in advance. Suggestions on treatment should be included in the patient record and communicated to treating gynecologists and patients.

5.5: Case Selection for MDT Meeting (E)

Discordance in cytology, colposcopy and histology; glandular disease, microinvasive cancer, recurrent and persistent disease after treatment; or when planning surveillance only in women with CIN 2.

5.6: Audit of MDT Meeting (E)

Annual audit meetings should be conducted to note number of meetings held, members who attended the meetings, cases discussed, record maintenance, and determine whether case selection met the criteria or not.

6. Colposcopy Standards Audit

6.1: Review Meetings (E)

Meetings should be conducted between colposcopists, nursing staff and hospital administration to review waiting time, default rates and take corrective measures towards quality assurance and improvement⁶

6.2: Quality Assurance and Continuous Quality Improvement (E) Measures:

- **Standard operating procedures**—agreed upon by both colposcopy team and hospital administration.^{6,7}
- **Quality improvement (QI) and audit**—QI program by regular audits (1 organizational and 1 clinical audit) at least annually for time to treatment when cancer or high-grade lesion is detected, logs of colposcopic performance monthly including number of colposcopies done per month, number of colposcopy-guided biopsies per month, number treated by ablation/excision, number needing anesthesia. Tracking system for biopsy specimens and reports should be in place.
- **Quality of treatment** is assessed by the rate of false-negative histology in excisional specimens.
- **Equipment log** to document all equipment failures and remedial actions taken.
- **Equipment maintenance**: record of equipment maintenance is essential as per the annual maintenance contract (AMC). The operating instructions must be displayed in the clinic for users.
- **Patient Information systems (D)**: it should be updated regularly.
- **Documentation** of waiting times, standardized forms for documentation of colposcopic findings, treatment and follow-up (print/soft copy) should be used (E).
- **Cleaning, disinfection and sterilization¹⁹ (E)**: Infection control committee must be formed to monitor infection control practices.
- **Biomedical waste management¹⁹ (E)**: process for segregation, transportation, disposal and management of biomedical waste management and dealing with needle stick injuries should be robust.

6.3: Patient Satisfaction Survey (D)

Grievance Redressal System for patient complaints and an action plan to improve patient satisfaction is essential.²⁰

Conclusions

These recommendations will facilitate setting up, evaluating, and maintaining standards in colposcopy centers and can be widely applied to LMICs.

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