

Comparison of teaching efficacy between laparoscopic intraoperative feedback and supervisor feedback for pelvic examination training in endometriosis diagnosis

Submission date 29/06/2026	Recruitment status No longer recruiting	☐ Prospectively registered
Registration date 29/06/2026	Overall study status Completed	☐ Protocol
Last Edited 29/06/2026	Condition category Pregnancy and Childbirth	☐ Statistical analysis plan
		☐ Results
		☐ Individual participant data
		☒ Record updated in last year

Plain English summary of protocol

Not provided at time of registration

Contact information

Type(s)

Scientific, Public, Principal investigator

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Study information

Scientific Title

Laparoscopic intraoperative visual feedback versus conventional supervisor verbal feedback for training inexperienced gynecology trainees to perform pelvic examination for endometriosis diagnosis: a single-center prospective comparative learning curve analysis

Study objectives

To compare the improvement of endometriosis pelvic examination diagnostic accuracy between laparoscopic intraoperative visual feedback training and traditional supervisor verbal feedback training among inexperienced gynecology trainees.

Ethics approval required

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Ethics approval(s)

Approved 18/05/2025, Clinical Research Ethics Committee of the First Affiliated Hospital, Zhejiang University School of Medicine (79 Qingchun Road, Hangzhou, 310003, China; 0571-87233418; zyiitlunli@163.com), ref: 2025-944

Primary study design

Interventional

Allocation

Non-randomized controlled trial

Masking

Open (masking not used)

Control

Active

Assignment

Parallel

Purpose

Gynecological medical education training research, comparing the efficiency of two clinical skill feedback training modes for endometriosis pelvic examination

Study type(s)**Health condition(s) or problem(s) studied**

Women with clinical suspicion of endometriosis during infertility evaluation requiring laparoscopy

Interventions

This is a single-center prospective comparative educational intervention study. Six inexperienced gynecology residents/junior attending physicians without specialized endometriosis examination experience are evenly divided into two parallel training groups, each trainee completes 30 standardized pelvic examinations on infertile patients with suspected endometriosis requiring laparoscopic surgery.

Group 1 (Laparoscopic intraoperative feedback group, n=3 trainees, total 90 patients): Each patient receives preoperative standardized pelvic examination by trainee; during laparoscopic

operation under anesthesia, trainee repeats sterile bimanual palpation and directly compares tactile palpation findings with real intraoperative pelvic lesion visualization to obtain real-time visual feedback after each case.

Group 2 (Supervisor verbal feedback group, n=3 trainees, total 90 patients): Trainee completes independent preoperative pelvic examination, reports palpation findings to senior attending supervisor with over 15-year laparoscopic experience; supervisor provides only verbal correction and guides repeated palpation for inconsistent anatomical sites, no intraoperative visual reference is available.

For every patient, 8 binary anatomical judgments are recorded, including vesicouterine pouch, bilateral adnexa, bilateral uterosacral ligaments, posterior fornix, obliteration of Douglas pouch and rectum. Laparoscopic intraoperative lesions are set as gold standard reference. LC-CUSUM analysis is used to calculate individual learning curve, with successful case defined as ≥ 6 correct judgments out of 8 anatomical sites (accuracy $\geq 75\%$). All patients complete follow-up until laparoscopic lesion confirmation, no long-term postoperative follow-up is required.

Intervention Type

Behavioural

Primary outcome(s)

1. Diagnostic accuracy of pelvic examination for endometriosis lesions measured using a comparison with laparoscopic intraoperative gold standard findings after every single pelvic examination case at each of 30 cases completed by the trainee

Key secondary outcome(s)

Completion date

15/03/2026

Eligibility

Key inclusion criteria

1. Reproductive-aged women with infertility requiring laparoscopic surgery
2. Clinical suspicion of endometriosis before operation
3. Agree to receive standardized pelvic examination by gynecology trainee
4. Voluntarily sign written informed consent to participate in this educational research

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 Years

Upper age limit

45 Years

Sex

Female

Total final enrolment

180

Key exclusion criteria

1. Severe pelvic malformation unable to complete pelvic examination
2. Refuse pelvic examination by trainee physicians
3. Decline to join this clinical training research

Date of first enrolment

20/05/2025

Date of final enrolment

26/02/2026

Locations**Countries of recruitment**

China

Sponsor information**Organisation**

First Affiliated Hospital Zhejiang University

ROR

<https://ror.org/05m1p5x56>

Funder(s)**Funder type****Funder Name**

Department of Education of Zhejiang Province

Alternative Name(s)

Zhejiang Provincial Department of Education, Department of Education, Zhejiang Province, Zhejiang Province Department of Education, Education of Zhejiang Province, Department of Education of the Zhejiang Province, , ZPDE

Funding Body Type

Government organisation

Funding Body Subtype

Local government

Location

China

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Not expected to be made available