AGA26

55TH GLOBAL CONGRESS ON MIGS

BOSTON, MASSACHUSETTS
NOVEMBER 13-16, 2026

Syllabus

General Session V

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GS05: General Session V

Faculty: Mauricio S. Abrão, Kathiane Augusto, Randa Jalloul, Jamal Mourad, Javier Magrina

MedTalk V – 273: We Measure What We Can—Not What Matters
Presenter: Randa Jalloul

Description: Modern gynecologic surgery excels at measuring what is easy—operative time, blood loss, length of stay, and complication rates—but often fails to measure what patients define as success. True surgical excellence is not determined in the operating room, but in the patient's life afterward. This MEDTalk challenges surgeons to rethink how success is defined, measured, and communicated in Minimally Invasive Gynecologic Surgery (MIGS), shifting the focus from surgeon-centered metrics to patient-defined outcomes.

Learning Objectives: *At the end of this course, the participant will be able to:* 1) Challenge entrenched definitions of surgical success; 2) Encourage adoption of patient-defined outcomes in daily practice; and 3) Improve counseling, expectation management, and satisfaction and align surgical excellence with patient autonomy and outcomes-driven care.

Panel: Border-Less Surgery: The Next Frontier in Surgical Telementoring and Global Collaboration
Chairs: Jamal Mourad, Javier Magrina
Faculty: Mauricio S. Abrão, Kathiane Augusto, Javier Magrina, Jamal Mourad

Description: Access to advanced surgical mentorship is traditionally bound by geography, time, and significant travel costs, creating disparities in global surgical care. This postgraduate course introduces a scalable solution: High-Fidelity Surgical Telementoring. Moving beyond basic teleconferencing, we explore how next-generation "immersive telepresence" ecosystems—combining robotic computing hubs, low-latency cloud streaming, and augmented reality (AR) - allow experts to virtually "scrub in" to guide complex procedures in real-time. This comprehensive session explores the complete lifecycle of a global surgical collaboration. We begin with the historical evolution of remote surgery, distinguishing modern success factors from past limitations. We then examine the technical architecture, demonstrating how to integrate high-performance robotic data systems with cloud-based platforms to create a "digital cockpit" for remote mentors. Expanding beyond robotics, we explore wearable technologies, showing how smart glasses and AR telestration allow mentors to see through the eyes of the local surgeon in laparoscopic and open environments. Finally, we validate the clinical impact through the "mentee perspective," illustrating how virtual access to world-class experts elevates the entire local surgical team, standardizes techniques, and improves patient outcomes in resource-limited or remote settings. Attendees will leave with a strategic roadmap to democratize access to surgical excellence and define the infrastructure of the future global operating room.

Learning Objectives: *At the end of this course, the participant will be able to:* 1) Evaluate the technical architecture of immersive telepresence, specifically how integrating robotic data hubs with wearable AR devices creates a low-latency, bi-directional environment for surgical instruction; 2) Demonstrate the clinical application of "virtual scrubbing" across different modalities—from robotic platforms to smart glasses—utilizing Augmented Reality (AR) telestration to guide dissection planes in real-time; and 3) Construct a strategic roadmap for implementing a global telementoring program, assessing the "multiplier effect" on local surgical teams and addressing barriers such as credentialing, data privacy, and connectivity.

Course Outline

2:00 pm	MedTalk V: 273 - We Measure What We Can—Not What Matters	R. Jalloul
Panel: Border-Less Surgery: The Next Frontier in Surgical Telementoring and Global		
2:15 pm	Welcome, Introduction and Course Overview	J. Mourad
2:20 pm	The Digital Cockpit: Integrating Robotic Data & Cloud Streaming. Leveraging the Computing Power of Modern Robotic Hubs (e.g., DV5) to Create a High-Fidelity, Multi-View Remote Teaching Environment	J. Mourad
2:27 pm	The Foundation: From Telesurgery to Telementoring. An Analysis of Historical Barriers and the Technological Shifts That Now Make Remote Mentorship Viable	J. Magrina
2:34 pm	The Surgeon's Eye: Smart Glasses & Augmented Reality. Utilizing Wearable Technology to Bridge the Gap in Non-Robotic Surgery, Allowing Mentors to Visualize the Open/Laparoscopic Field in the First Person	M. Abrão
2:41 pm	The Multiplier Effect: The Mentee Experience. A Case Study on the Impact of "Virtual Visiting Professors" on Skill Acquisition, Confidence, and Patient Outcomes in Local Centers	K. Augusto
2:48 pm	Questions & Answers	
3:00 pm	Introducing AAGL Endometriosis Classification 2.0: From Staging to the Endo App	M. Abrão
3:06 pm	Closing Ceremony	
3:15 pm	Adjourn	

ADA Statement: In accordance with the Americans with Disabilities Act (ADA), please contact CMEsupport@aagl.org should you require any special assistance.

Disclosure of Relevant Financial Relationships

As an ACCME-accredited provider, AAGL is responsible for ensuring that accredited education is fair, balanced, free of commercial bias, and supports safe, effective patient care. AAGL maintains control over all aspects of educational planning, content, faculty selection, delivery, and evaluation.

All individuals in a position to control educational content are required to disclose financial relationships with ACCME-defined ineligible companies within the past 24 months. AAGL identifies and mitigates all relevant financial relationships before individuals assume their respective roles. Educational content is also subject to independent peer review by individuals without relevant financial relationships.

Disclosure information and acknowledgment of any commercial support are provided to learners before the activity to promote transparency and maintain the independence and integrity of the education.

Asterisk (*) denotes no financial relationships with ACCME-defined ineligible companies to disclose.

PLANNER DISCLOSURES

The following members of AAGL have been involved in the educational planning and/or review of this course (listed in alphabetical order by last name).

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Linda Bell, AAGL Admin Support*
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SCIENTIFIC PROGRAM COMMITTEE

Nash Moawad, MD, MS, Chairman – Consultant (ended 12/2024): Medtronic, Womed, Integra Life Sciences
Amani Harris, MD*
Ted Lee, MD – Advisory/Consultant: Johnson & Johnson, Regeneron Pharmaceuticals
Nucelio Lemos, MD, PhD – Speakers Bureau: Pfizer, Inc., Medtronic; Advisory Board: Knight Therapeutics, Vecfer Pharma
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Linda D. Bradley, MD, Medical Director*
Linda Michels, Executive Director, AAGL*

COURSE CHAIR DISCLOSURE

Jamal Mourad, DO – Proctor: Intuitive Surgical

COURSE CO-CHAIR DISCLOSURE

Javier Magrina, MD – Royalty: Aspen Surgical; Speakers Bureau: CAST: Core Access Surgical Technologies

FACULTY DISCLOSURES

The following faculty have agreed to support their presentations and clinical recommendations with the best available evidence from the medical literature (in alphabetical order by last name).

Mauricio S. Abrão, MD, PhD – Advisory Board: Chugai Pharmaceutical Co, Foraviset (Foraviset Ltd.), Roche; Consultant: Chugai Pharmaceutical Co, Foraviset (Foraviset Ltd.), Roche
Kathiane Augusto, MD*
Randa J. Jalloul, MD, MS*
Jamal Mourad, DO – Proctor: Intuitive Surgical
Javier Magrina, MD – Royalty: Aspen Surgical; Speakers Bureau: CAST: Core Access Surgical Technologies

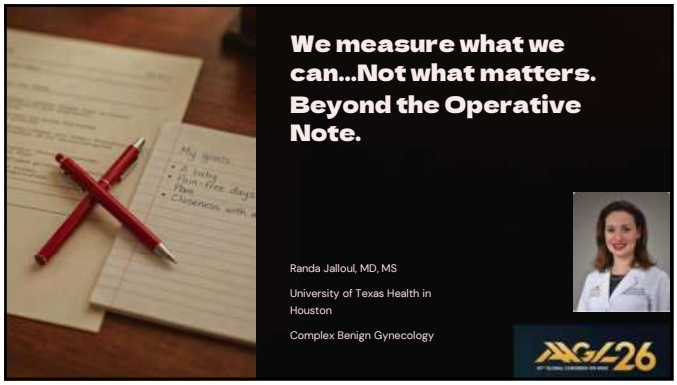
MITIGATION OF RELEVANT FINANCIAL RELATIONSHIPS

All relevant financial relationships have been mitigated.

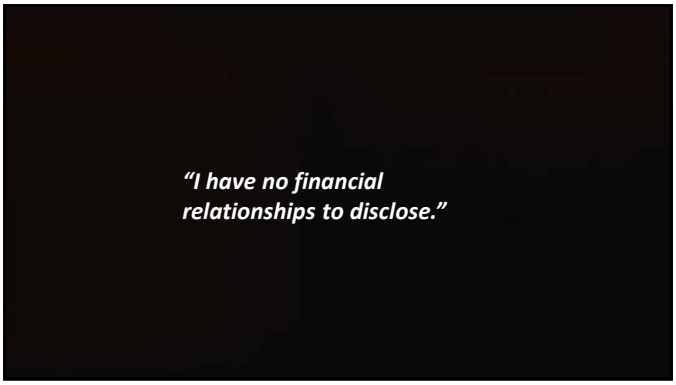
Drs. Lee, Lemos, Mikhail, and Chaudhari's planning decisions, as part of the Scientific Program Committee (SPC), were peer reviewed by other planners on the SPC who had disclosed no financial relationships with ineligible companies, and found to be fair, balanced, and free of commercial bias. Dr. Moawad's financial relationships ended 12/2024, thus mitigating them. For most of his AAGL Professional Education Committee service, Dr. Mourad had no financial relationships to disclose. He recently disclosed a new relationship as a Proctor for Intuitive Surgical. Since then, he has not participated in activities involving control or influence over accredited educational content; therefore, no additional mitigation was necessary.

Drs. Mourad and Magrina's roles as Course Chair and Co-Chair were limited primarily to course oversight and moderation, rather than development of educational content. Any planning decisions or content under their influence were subject to independent peer review by individuals without relevant financial relationships.

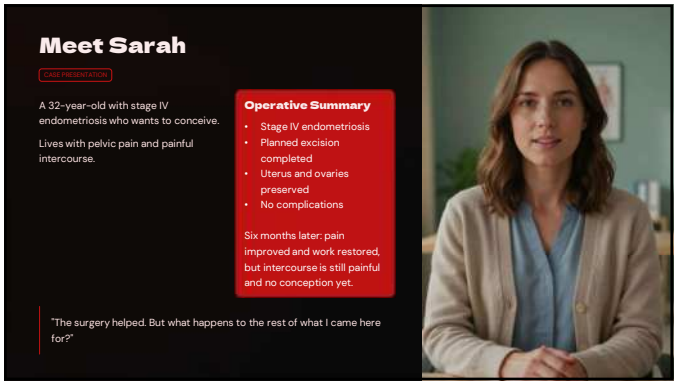
The presentation content for course faculty, Drs. Abrão, Magrina, and Mourad, has been peer reviewed and found to be fair, balanced, and free from commercial bias.


We measure what we can...Not what matters. Beyond the Operative Note.
Randa Jalloul, MD, MS
University of Texas Health in Houston
Complex Benign Gynecology

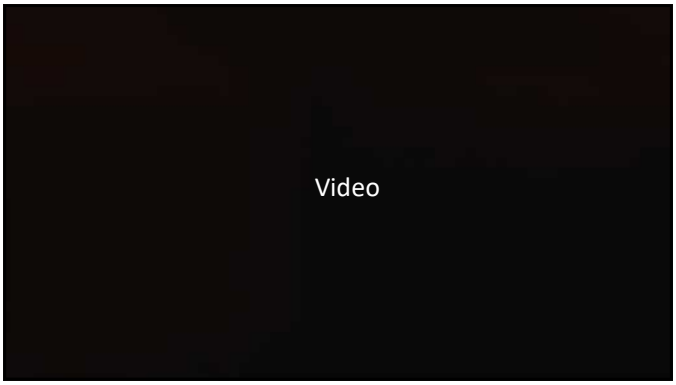
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"I have no financial relationships to disclose."

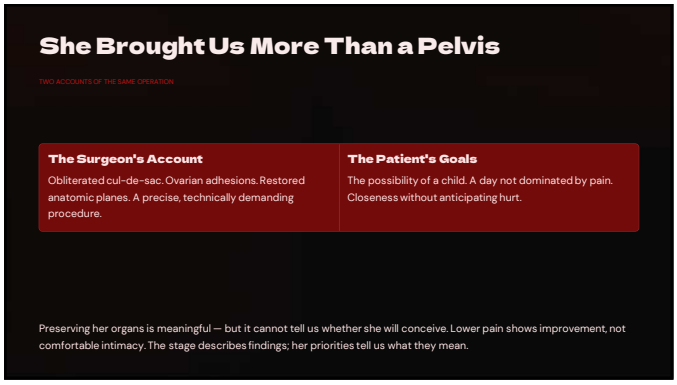
2


Meet Sarah
CASE PRESENTATION
A 32-year-old with stage IV endometriosis who wants to conceive.
Lives with pelvic pain and painful intercourse.
Operative Summary
Stage IV endometriosis
Planned excision completed
Uterus and ovaries preserved
No complications
Six months later: pain improved and work restored, but intercourse is still painful and no conception yet.
"The surgery helped. But what happens to the rest of what I came here for?"

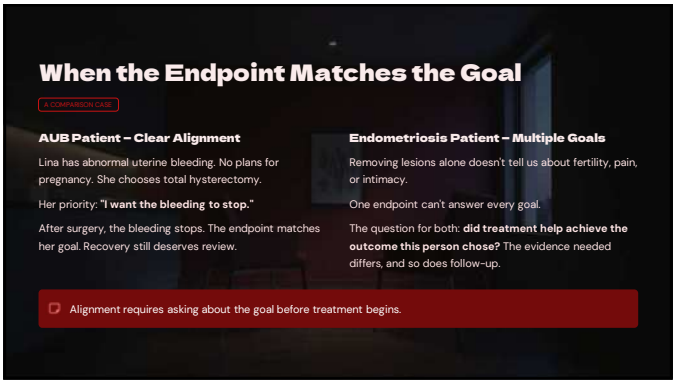
3


Video

4


She Brought Us More Than a Pelvis
TWO ACCOUNTS OF THE SAME OPERATION
The Surgeon's Account
Obliterated cul-de-sac. Ovarian adhesions. Restored anatomic planes. A precise, technically demanding procedure.
The Patient's Goals
The possibility of a child. A day not dominated by pain. Closeness without anticipating hurt.
Preserving her organs is meaningful — but it cannot tell us whether she will conceive. Lower pain shows improvement, not comfortable intimacy. The stage describes findings; her priorities tell us what they mean.

5


When the Endpoint Matches the Goal
A COMPARISON CASE
AUB Patient – Clear Alignment
Lina has abnormal uterine bleeding. No plans for pregnancy. She chooses total hysterectomy.
Her priority: "I want the bleeding to stop."
After surgery, the bleeding stops. The endpoint matches her goal. Recovery still deserves review.
Endometriosis Patient – Multiple Goals
Removing lesions alone doesn't tell us about fertility, pain, or intimacy.
One endpoint can't answer every goal.
The question for both: did treatment help achieve the outcome this person chose? The evidence needed differs, and so does follow-up.
Alignment requires asking about the goal before treatment begins.

6

Which Goal Comes First for Her?

CLINICAL REFLECTION

Pregnancy

She may want conception as soon as possible — or she may need pain relief before she feels ready to pursue it.

Pain Relief

Daily function and work may be her most urgent priority — the foundation for other goals.

Comfortable Intimacy

Pain may have strained her relationship most — a goal that deserves its own discussion.

Age, imaging, and disease extent inform our assessment, but not which compromise she would accept. **Ask: "What matters most to you now, and what would you find hardest to give up?"**

7



Goals Can Change Treatment Choices

CLINICAL CONSEQUENCES

Ovarian surgery can affect ovarian reserve. The fertility benefit of excising deep endometriosis is uncertain. Postoperative hormonal treatment for pain is an option when pregnancy is not immediately desired. **[1]**

A plan that serves one goal may delay another. **"Fertility-sparing"** describes an intention, not a promise of pregnancy.

Key Planning Questions

- Is pregnancy desired now or later?
- What is current ovarian reserve?
- How does timing affect symptom treatment?
- Which trade-off would she accept?

8

A Better Pain Score Can Leave Unfinished Goals

SIX-MONTH FOLLOW-UP

What Improved

Pain fell from 8 to 3. She can finish her shifts and has returned to work.

What Remains Unresolved

Intercourse remains painful. The path to pregnancy is uncertain. Her surgical goals are not yet met.

Evidence on Pain Contributors

In 239 patients, higher preoperative Central Sensitization Inventory scores predicted worse postoperative pain, even after adjusting for baseline pain. **[2]**

The most accurate account is specific: some domains improved substantially, while other goals remain unresolved. Not conceiving at one visit alone does not establish surgical failure.

9

Intimacy Deserves Its Own Question

A GOAL THAT MAY NEVER APPEAR IN THE OPERATIVE NOTE

> "Would it be okay to talk about how pain affects intimacy?"

If she agrees, ask what she wants to change. She may describe pain during penetration, pain afterward, fear of pain, or avoidance of closeness. Let her define both the intimacy she wants and the difficulty she experiences.

Resuming an activity and feeling safe during it are different outcomes. We cannot infer comfort from whether intercourse has resumed.

Validated Tools Support the Conversation

The Endometriosis Health Profile-30 (EHP-30) was developed from patient interviews and captures quality of life beyond symptoms. Optional modules address sexual intercourse and infertility. **[3]**

Preserve validated wording and scoring. Then add her own goal: *"I want to be close to my partner without bracing for pain."*

10

Counseling Connects Each Goal to a Plan

BEFORE SURGERY

> "You have told me that pregnancy, relief from pain, and comfortable intimacy all matter to you. Let us discuss what surgery may contribute, what it cannot guarantee, and how your pregnancy timeline affects the plan. We will agree on what improvement looks like."

Pain

Identify the activities she wants to recover. Set a concrete baseline before surgery.

Fertility

Clarify timing and coordinate assessment. Organ preservation does not guarantee reproductive success.

Intimacy

Ask what help she wants and how she would like the team to revisit it.

ACOG guidance on shared decision-making places benefits and risks within the patient's values. **[4]** Ask her what she expects treatment to change, and listen for any guarantee she heard that you did not intend to give.

11

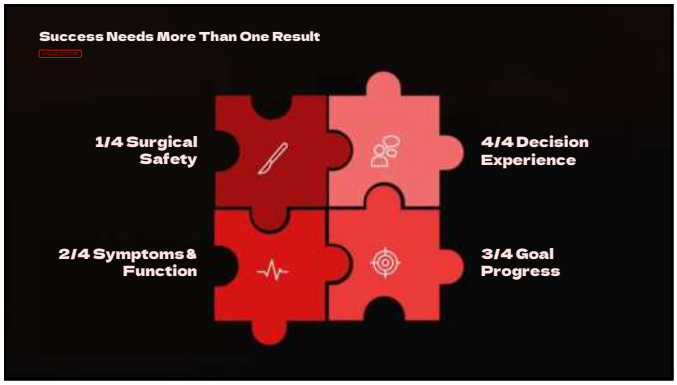
Follow-Up Asks About All Her Goals

RETURNING TO THE PATIENT

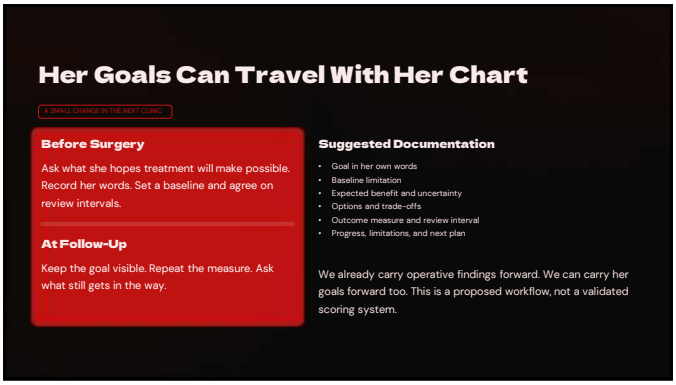
1. **"You wanted to work without losing days to pain. How has that changed?"**
   Repeat the validated measure. Assess pain severity and functional interference separately.
2. **"You wanted pregnancy. Where are we in the reproductive plan?"**
   Review fertility progress with the right team. One visit without conception is not a verdict on the operation.
3. **"How has pain affected intimacy since treatment, if you'd like to discuss it?"**
   Reassess dyspareunia and distress. Revisit only as the patient welcomes. Document remaining limits and set a next plan.



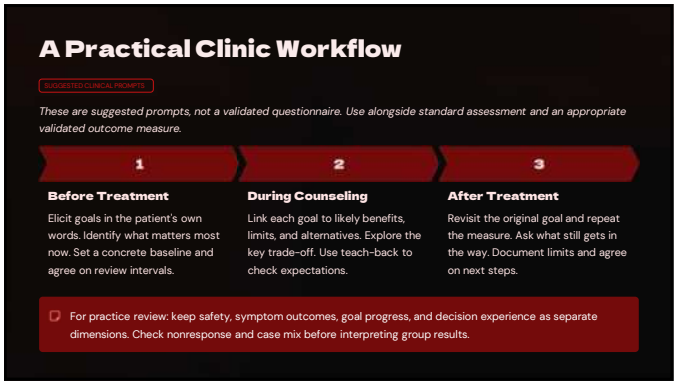
12


Success Needs More Than One Result
1/4 Surgical Safety
4/4 Decision Experience
2/4 Symptoms & Function
3/4 Goal Progress

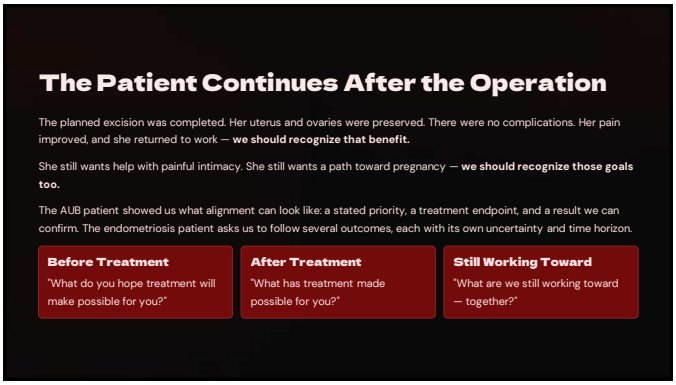
13


Her Goals Can Travel With Her Chart
A SMALL CHANGE IN THE NEXT CLINIC
Before Surgery
Ask what she hopes treatment will make possible. Record her words. Set a baseline and agree on review intervals.
At Follow-Up
Keep the goal visible. Repeat the measure. Ask what still gets in the way.
Suggested Documentation
Goal in her own words
Baseline limitation
Expected benefit and uncertainty
Options and trade-offs
Outcome measure and review interval
Progress, limitations, and next plan
We already carry operative findings forward. We can carry her goals forward too. This is a proposed workflow, not a validated scoring system.

14


A Practical Clinic Workflow
SUGGESTED CLINICAL PROMPTS
These are suggested prompts, not a validated questionnaire. Use alongside standard assessment and an appropriate validated outcome measure.
1
2
3
Before Treatment
Elicit goals in the patient's own words. Identify what matters most now. Set a concrete baseline and agree on review intervals.
During Counseling
Link each goal to likely benefits, limits, and alternatives. Explore the key trade-off. Use teach-back to check expectations.
After Treatment
Revisit the original goal and repeat the measure. Ask what still gets in the way. Document limits and agree on next steps.
For practice review: keep safety, symptom outcomes, goal progress, and decision experience as separate dimensions. Check nonresponse and case mix before interpreting group results.

15


The Patient Continues After the Operation
The planned excision was completed. Her uterus and ovaries were preserved. There were no complications. Her pain improved, and she returned to work — we should recognize that benefit.
She still wants help with painful intimacy. She still wants a path toward pregnancy — we should recognize those goals too.
The AUB patient showed us what alignment can look like: a stated priority, a treatment endpoint, and a result we can confirm. The endometriosis patient asks us to follow several outcomes, each with its own uncertainty and time horizon.
Before Treatment
"What do you hope treatment will make possible for you?"
After Treatment
"What has treatment made possible for you?"
Still Working Toward
"What are we still working toward — together?"

16


References
EVIDENCE & SPEAKER NOTES
[1] ESHRE Endometriosis Guideline 2022
ESHRE Endometriosis Guideline Development Group. Endometriosis guideline. 2022. Supports individualized fertility counseling, ovarian-reserve effects of ovarian surgery, uncertain fertility benefit from deep excision, and postoperative hormonal treatment when pregnancy is not immediately desired. Shared planning, not a fixed algorithm. Full guideline
[2] Orr et al., JAMA Network Open, 2023
Orr NL, Huang AJ, Liu YD, et al. Association of Central Sensitization Inventory Scores With Pain Outcomes After Endometriosis Surgery. JAMA Network Open. 2023;6(2):e230780. Prospective cohort of 239 patients. Higher baseline CSI scores were linked to worse postoperative pain. Follow-up rate was 71%. Observational; causation not established. Full article
[3] Jones et al., Obstetrics & Gynecology, 2001
Jones G, Kennedy S, Barnard A, Wong J, Jenkinson C. Development of an endometriosis quality-of-life instrument: The Endometriosis Health Profile-30. Obstetrics and Gynecology. 2001;98(2):258–264. EHP-30 built from patient interviews. Core domains: pain, control, emotional well-being, social support, self-image. Optional modules cover intercourse and infertility. Validated wording and scoring preserved. PubMed
[4] ACOG Committee Opinion No. 819, 2021
American College of Obstetricians and Gynecologists. Informed Consent and Shared Decision Making in Obstetrics and Gynecology. Committee Opinion No. 819. Obstetrics and Gynecology. 2021;137(2):e34–e41. Supports discussing benefits, risks, and options in line with the patient's values, preserving voluntary choice and the right to refuse. PubMed

17

The Digital Cockpit: Integrating Robotic Data & Cloud Streaming

Leveraging modern robotic hubs to create a high-fidelity remote teaching environment

Jamal Mourad, DO, FACOG

Associate Professor, University of Arizona College of Medicine – Phoenix
Past President, Phoenix OBGYN Society
Founder, Lumina Surgical Gynecology

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01

1

Disclosure

Relevant financial relationship

- Proctor: **Intuitive Surgical**

This relationship is relevant to the discussion of da Vinci 5 platform capabilities. Manufacturer claims, regulatory boundaries, and clinical evidence are treated as separate claims.

Academic standard:
capability ≠ regulatory authorization ≠ clinical outcome evidence

02

2

Learning Objectives

At the conclusion of this opening, participants should be able to:

01
Explain
Explain why high-fidelity telementoring requires operative, team, system, and local-command context—not merely an additional video feed.

02
Distinguish
Distinguish verified robotic-platform capabilities from regulatory authorization and patient-outcome evidence.

03
Apply
Apply a failure-first safety framework to the design of a remote surgical teaching environment.

03

3

A Remote Mentor Needs Context, Not Just Pixels

01 · Operative field
The current anatomy and tissue plane must remain visually dominant and continuously available to the local surgeon.

02 · Local team
Patient-side hands, nursing, anesthesia, and team readiness determine whether advice can be executed safely.

03 · System state
Active instruments, energy, force, and platform status provide shared technical references for instruction.

04 · Local command
The credentialed onsite surgeon remains operator, decision-maker, and rescue pathway when the link changes or disappears.

Presence extends expertise; context makes advice clinically useful.

Sources: Enridge et al., Surg Innov. 2019; SAGES Educational Implications; ACS Telementoring Checklist.

04

4

Why Now? The Robot Is Becoming a Computing Platform

10,000×

manufacturer-stated computing power versus da Vinci Xi

Compute headroom
Sequential software capabilities, processing, and real-time insights.

Sensor-rich signals
Directional force sensing and Force Gauge can create shared references.

Software in the flow
In-console replay and integrated controls bring information to the surgeon's field of view.

Collaboration layer
Telepresence is described for observation, collaboration, and mentoring.

Evidence boundary: computing power and product capability are not patient-outcome evidence.

Sources: Intuitive da Vinci 5 product page; Intuitive Real-Time Surgical Insights announcement; FDA 510(k) K232610.

05

5

Four Views. One Clinical Decision.

01 · Operative field — dominant



Closed-loop audio · synchronized annotation · local surgeon in control

02 · OR overview
Patient-side team, readiness, and rescue capacity.

03 · Console + system state
Surgeon, instruments, active energy, and platform status.

04 · Force + voice/annotation
Objective references convert "a little more" into shared language.

The cockpit should minimize ambiguity, not maximize information.

Sources: Enridge et al., Surg Innov. 2019; Jiang et al., Surg Endosc. 2023; Budtionis et al., J Telemed Telecare. 2016.

06

6

Two Planes, One Clinical Conversation

PLANE 01 · LATENCY-CRITICAL LIVE MEDIA

Robotic hub + OR
operative + context feeds
audio + annotation
local display stays live

→ **OR edge**
synchronize · encode · route

→ **Protected path**
primary + tested failover

→ **Remote mentor cockpit**
see · hear · speak · point
named role + audited access
no instrument control

closed-loop voice + time-aligned annotation

PLANE 02 · CLOUD CONTROL + LEARNING

Identity + session	Audit + observe	Archive + review	Analytics + learning
schedule · admit · consent	logs · metrics · incidents	encrypted video · replay	performance insight · debrief

Use the cloud to make the cockpit smarter—not to create a single point of failure.

Sources: FDA Cybersecurity Guidance 2026; ACS Telehealth Statement; architecture synthesis informed by telementoring systems literature.

07

7

Design the Failure Before the Feature

If the link drops at a critical step, every person in the room must know the next move.

A · Full
Multi-view cockpit
operative + context
voice + annotation
record + analytics

→ **B · Protect**
Primary image + audio first
reduce auxiliary views
pause replication
protect interaction

→ **C · Degraded**
Operative view + backup voice
independent audio
explicit stop vocabulary
local decision

→ **D · Link lost**
Local plan executes
continue · pause
convert · rescue
no improvisation

Redundancy is a rehearsed clinical workflow across path, power, audio, display, and people.

Sources: ACS Telementoring Checklist 2026; FDA Cybersecurity Guidance 2026; Wakasa et al., J Robot Surg. 2024.

08

8

What da Vinci 5 Changes—and What It Does Not

Verified capability / product description

01 10,000× computing power versus Xi

02 Telepresence for observation, collaboration, and mentoring

03 Force sensing, Force Gauge, and in-console replay

04 Integrated console, robot, vision tower, and devices

Boundary / do not overclaim

01 Public K232610 does not establish remote instrument control as intended use

02 Force feedback is not full tactile or grip feedback

03 Capabilities are not evidence of superior patient outcomes

04 Local team and governance remain essential

Gynecologic-specific FDA contraindication: force-feedback needle driver is contraindicated in hysterectomy and myomectomy; non-force-feedback needle drivers are recommended for suturing.

Sources: FDA 510(k) K232610; Intuitive da Vinci 5 product page; Servais et al., Surg Endosc. 2024.

09

9

The Cockpit Is the Opening Act

The system is initialized. Three clinical questions come next.

ACT 01 · FOUNDATION
How did we get here?
Javier Magrina, MD
From telesurgery barriers to today's viable telementoring model

ACT 02 · SURGEON'S EYE
What can we see together?
Mauricio S. Abrão, MD, PhD
Smart glasses and AR beyond the robotic platform

ACT 03 · MULTIPLIER
What remains when we disconnect?
Kathiane Augusto, MD
Confidence, local capability, and the stronger team

Architecture → Foundation → Virtual Scrubbing → Multiplier Effect

Course architecture: Jamal Mourad, DO, FACOG, chair; faculty sequence from submitted session program.

10

10

References

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All sources cited in the presentation are listed above without exception.

11

11



1

Disclosure

- Aspen Surgical
- Wolters Kluwer
- CAST

2

Objectives

- Discuss telementoring and telerobotics
- Describe the need, obstacles, and present status

3

Need for Telementoring and Telerobotics

5 billion people don't have access to safe surgical care

Need for 143 million surgeries/yr to save lives

and correct disabilities

Int J Obstet Anesth 2016;25:75-8.

4

Global initiative

WHO with **SRS** and **IRCAD**

- Create remote robotic centers in needed areas
- Train local surgeons

5

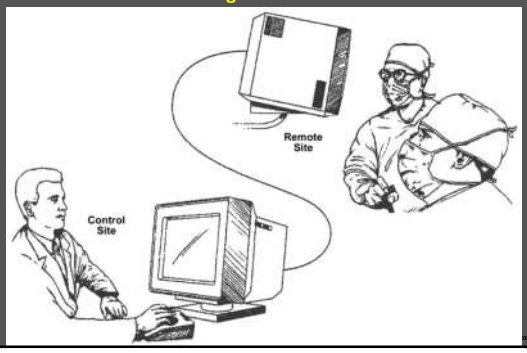
Needs good Connectivity and good Latency

- Wired: dedicated fiber-optic cables
- Wireless: 5G internet (6G: haptics, 2030)
  Satellites: LEO
  Drones
- Both: Wired and Wireless

Latency 16-136 ms (up to320 ms)
No interruptions

6

Telementoring = Real Time Guidance



7

How can you assist with Telementoring

- Live video and audio
- Telestration
- Control of electrosurgery
- Control of robotic arm (Zeuss, Computer Motion, Inc)

8

Mayo Clinic 1997 : Aesop



9

Mayo Clinic 1997: Aesop

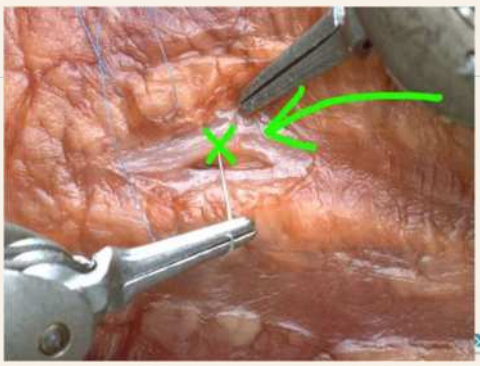


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Telementoring: Socrates Mayo Clinic AZ 2003



11



12

Telementoring is 66 yo

- 1960 - First surgical : open heart surgery via satellite
- 1999 - First to a mobile OR unit in the rain forest, Ecuador

By 2010 - 433 documented transcontinental transmissions

RCT comparison with on site guidance: no inferiority

4.6% complications

J Am Coll Surg 2010;211:400-11.
Ann Transl Med 2016;4(20):391

13

Telerobotics is 25 yo

First transmissions **Zeuss, Computer Motion, Inc.**

2001 NYC - Strasbourg 6 yr, $1M

2003 London, CAN - Hamilton, CAN 21 surgeries

14



15



16

Tele-robotics

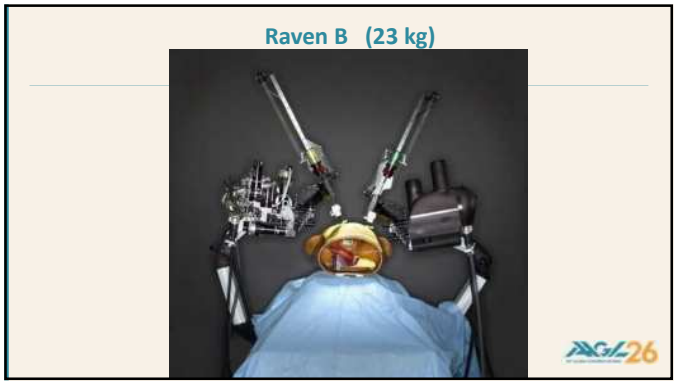
- 2022 China (Toumai) 5,000 km 16 -30 ms
- 2023 Japon - Singapore (Hinotori)
- 2024 Strasbourg - China (Toumai), India (SSI Mantra 3), Japan (Hinotori) , Kazakhstan (Kangduo)

17

Recent Tele-robotics

- 2025 **Belgium** (Toumai) Hysterectomy 20 km 20 ms.
  Orlando (Toumai) FL – **Angola** 11000 km 146 ms
  Kuwait (Toumai) 50 km 3 hyst for endometrial ca
- 2026 **Panama** (Xcath Iris) Catheter (stroke) 120 miles away
  London,UK – **Gibraltar** (Toumai) 2400 km 60 ms
  India (SSI Mantra 3) – **Guyana**, SA **20,000 km** Heart bypass
  Delhi (SSI Mantra 3) – Indore 740 km Hernia
  Lagos –Abuja, **Nigeria** (Toumai) 750 km Sl Rad Nephrect. 135 ms
  Perth, **Australia** – India 4500 km

18



19



20



21



22



23



24

Telepresence Mayo Clinic Arizona



25



26



27

Obstacles

- International surgical visa
- Agreements between countries and hospitals
- Two consent forms
- Billing: expert surgeon or remote surgeon or both
- Complications

28

Status in USA

- No robotic systems approved
- Cross-states licensing
- Legalities: who is responsible
- Cost

FDA is reviewing the approval process

29

Robotic autonomic performance



30

Remote medical assistance in battlefield 2025 (DOD)



31



32

References

J Am Coll Surg 2010;211:400-11.

Ann Transl Med 2016;4(20):391

Int J Obstet Anesth 2016;25:75-8.

33

Thank you !!

jmagrina@mayo.edu

34


THE SURGEON'S EYE
Smart Glasses & Augmented Reality
Utilizing wearable technology to bridge the gap minimally invasive surgery allowing mentors to visualize the open/laparoscopic field in the first person.
Mauricio S. Abrão, MD, PhD
FMUSP · BP – A Beneficência Portuguesa de São Paulo

1


THE SURGEON'S EYE
Smart Glasses & Augmented Reality
Disclosure
Advisory Board member : Forasevit; Chugai; Roche

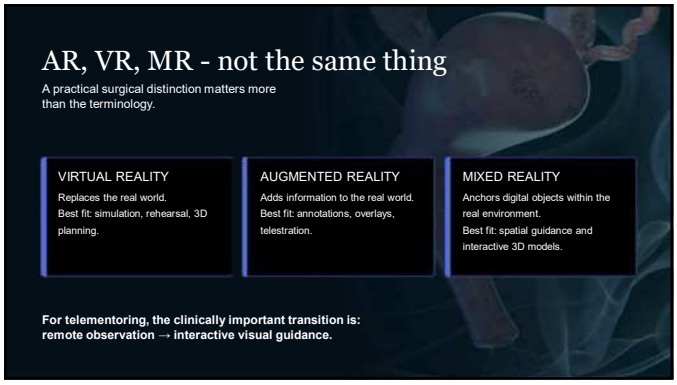
2


The mentoring GAP
Robotics already solved part of the problem.
Non-robotic surgery still has a context gap.
ROBOTIC SURGERY
• Shared digital field
• Dual console
• Integrated communication
• Native video architecture
CONVENTIONAL LAPAROSCOPY
• Excellent endoscopic image
• But mentor may miss hands, ports, room context
• Remote support is usually fragmented
OPEN SURGERY
• Mentor needs the operator's viewpoint
• Hands-free transmission matters
• Physical presence remains the default
The missing layer is not only video.
It is shared operative context.

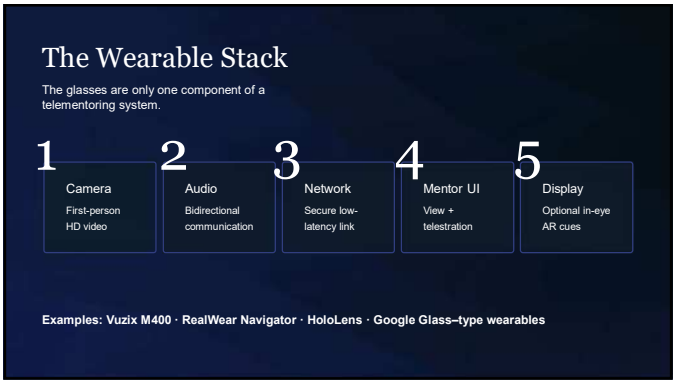
3


What if the mentor could see exactly what I see?
SURGEON POV
REMOTE MENTOR

4


AR, VR, MR - not the same thing
A practical surgical distinction matters more than the terminology.
VIRTUAL REALITY
Replaces the real world.
Best fit: simulation, rehearsal, 3D planning.
AUGMENTED REALITY
Adds information to the real world.
Best fit: annotations, overlays, telestration.
MIXED REALITY
Anchors digital objects within the real environment.
Best fit: spatial guidance and interactive 3D models.
For telementoring, the clinically important transition is:
remote observation → interactive visual guidance.

5


The Wearable Stack
The glasses are only one component of a telementoring system.
1 Camera
First-person HD video
2 Audio
Bidirectional communication
3 Network
Secure low-latency link
4 Mentor UI
View + telestration
5 Display
Optional in-eye AR cues
Examples: Vuzix M400 · RealWear Navigator · HoloLens · Google Glass–type wearables

6

From video call to visual guidance

Dynamic telestration is the key leap.

SEE — SPEAK — POINT — DRAW — GUIDE — AUGMENT

Hands · pointers · arrows · instrument trajectories · anatomical boundaries
The mentor's expertise becomes visible, not only audible.
Hamza H, et al. JMIR. 2025;27:e63939. · Cizmic A, et al. Surg Endosc. 2025;39:8000–8013.

7

A Hybrid Architecture for Laparoscopy

For complex MIS, first-person context should complement — not replace — the endoscopic feed.

1	2	3
Inputs	Secure Collaboration Layer	Remote Expert
Direct Laparoscopic Feed	Synchronized streams	Observe
Highest-quality intra-abdominal view	Bidirectional audio	Interpret
Wearable POV	Annotations / telestration	Point / draw
Hands · ports · monitor · OR context		Guide

This is the architecture I would test for endometriosis.

8

2026: Smart Glasses Enter a Randomized Clinical Workflow

Open inguinal hernia repair · Vuzix M400 · prospective randomized pilot

45	100%	93.3%	60.7
Elective open repairs	Correct spermatic cord isolation with telementoring	Correct local anesthesia step with telementoring	Mean OR time telementoring (min). On-site mentoring: 44.0 min

IMPORTANT
The Vuzix system transmitted first-person video + bidirectional audio. Telestration and recording were **NOT** available in this study.

Carruezzo C, et al. Surg Endosc. 2026;40:8128–8138. doi:10.1007/s00464-026-13255-w.

9

Can Remote AR Reduce Operative Stress?

RealWear Navigator 500 · 5 senior residents · 50 procedures

131	**119**
Before AR bpm peak heart rate	With AR bpm peak heart rate p = 0.004
STAI	**What It Does Not Prove**
Subjectively perceived stress was also lower with AR remote assistance (p = 0.011).	Small pilot; heterogeneous open/laparoscopic procedures; not powered for clinical outcomes.

Kambakamba P, et al. Langenbecks Arch Surg. 2024;409:100. doi:10.1007/s00423-024-03287-y.

10

Holopointer: When the mentor can annotate the field

Randomized laparoscopic cholecystectomy trial · 32 cases

-59.4% **Gestural corrections** 4.6 → 1.9	**-36.1%** **Verbal corrections** 17.8 → 11.4	**72.5** **System Usability Scale** **"Good" usability**	**69.2%** **Wanted to use it more frequently**

IMPORTANT
Reductions in gestural and verbal corrections were NOT statistically significant (p > 0.05).
No significant differences in GOALS, CVS or operating time.

Huettl F, et al. J Am Coll Surg. 2023;237:292–300. doi:10.1097/XCS.0000000000000712.

11

The Platform Landscape

Different systems solve different pieces of the problem.

Smart Glasses	HoloPointer / iSurgeon	Proximie / AIS
• Vuzix / RealWear	• Real-time annotation	• Remote collaboration
• First-person streaming	• Visual cues	• Telestration
• Hands-free audio	• Training-focused	• Scalable connectivity

STAR	RISP / HoloLens
• Wearable AR + remote expert	• Shared field of view
• 3D instructions	• 3D annotations
• Emergency/procedure guidance	• Bidirectional voice

12

The evidence is promising. The evidence is not yet definitive.

Two recent scoping reviews show breadth and major heterogeneity.

21	33	?
studies in dynamic AR cues for MIS telementoring	studies in AR telestration across surgical fields	patient-outcome benefit still uncertain

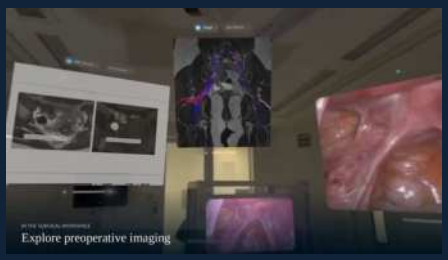
Most studies focus on feasibility, skills, communication, usability and simulation with limited standardized clinical endpoints.

Hamza H, et al. JMIR. 2025;27:e63939. · Cizmic A, et al. Surg Endosc. 2025;39:8000–8013.

13

Watch the concept in action

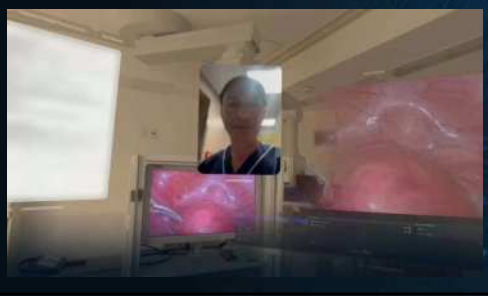
A short visual example of AR-enabled surgical collaboration.



14

Watch the concept in action

A short visual example of AR-enabled surgical collaboration.



15

Why endometriosis?

Because expertise, anatomy and disease distribution are unusually complex.

URETER	BOWEL	VASCULAR
hidden risk	variable planes	critical landmarks
NERVES	MULTIFOCAL	

The procedures that may benefit most from expert remote guidance are often performed where the expert is not.

Hamza H, et al. JMIR. 2025;27:e63939. · Cizmic A, et al. Surg Endosc. 2025;39:8000–8013.

16

What Does Endometriosis Navigation Look Like Today?

2026 systematic review · 2015–2025 literature

54 included studies	1,002 patients	41 optical imaging studies 976 patients	12 intraoperative ultrasound 24 patients

1 AR/VR case series · 2 patients

ICG/optical imaging and intraoperative ultrasound dominate.
AR/VR remains at an early clinical-translation stage.

Inci A, et al. J Minim Invasive Gynecol. 2026;33:1067–1085.e1. doi:10.1016/j.jmig.2026.03.002.

17

In Endometriosis, AR Has Mostly Started Before the Incision

3D reconstruction and VR are currently more mature for planning than for live telementoring.

IMAGING	3D MODEL
Expert US / MRI mapping	Segmentation / reconstruction
VR / PRINT	INTRAOP
Planning and spatial understanding	Still limited AR translation

The opportunity is to connect preoperative knowledge to real-time intraoperative guidance.

Warshafsky C, et al. J Minim Invasive Gynecol. 2024;31:983–984. · Inci A, et al. JMIG. 2026.

18

THE MISSING STUDY

A clinically tested workflow combining all five elements has not yet been identified in the published endometriosis literature.

- SMART GLASSES
- REMOTE EXPERT
- DYNAMIC AR GUIDANCE
- ENDOMETRIOSIS SURGERY
- FIRST-PERSON VIEW

That gap is a research opportunity — not evidence of effectiveness.
Search date: 29 September 2026

Search synthesis updated Sep 29, 2026; based on Inci et al. 2026 and targeted literature review.

19

From "see what I see" to "see what imaging predicted"

A future endometriosis workflow could connect mapping, 3D anatomy and live expert guidance.

1	2	3	4	5
PREOP MAP Expert US / MRI	3D MODEL Lesions + critical anatomy	LIVE FEEDS Laparoscope + wearable POV	REMOTE MENTOR Shared interpretation	AR GUIDANCE Point · draw · confirm

Navigation should augment judgment — not automate dissection.

20

What Can Break in the Real OR?

Technology is only useful if it survives the workflow.

- **LATENCY** — A 500-ms delay can matter when guidance is time-sensitive.
- **FIELD OF VIEW** — What the surgeon sees is not always what the camera captures.
- **BATTERY / HEAT** — Long complex cases stress wearable hardware.
- **CONNECTIVITY** — Bandwidth, redundancy and failover must be designed.
- **COGNITIVE LOAD** — More information can become more distraction.
- **STERILITY / ERGONOMICS** — Headsets must coexist with loupes, caps, masks and movement.

21

Border-less does not mean rule-less

Remote expertise requires governance as rigorous as the technology.

- **CONSENT** — Explicit patient consent for remote participation and recording policy.
- **PRIVACY** — Encrypted transmission; LGPD/HIPAA-aligned data handling.
- **CREDENTIALING** — Who is authorized to advise across institutions or jurisdictions?
- **RESPONSIBILITY** — The operating surgeon retains local clinical responsibility.
- **CYBERSECURITY** — Access control, audit trail, network segmentation and downtime plan.
- **ESCALATION** — Clear rule for when remote mentoring is insufficient and local help is required.

22

AAGL Smart-Glasses Endometriosis Program

A staged research pathway is safer — and scientifically stronger — than jumping directly to an outcomes RCT.

PHASE 1	PHASE 2	PHASE 3
FEASIBILITY + SAFETY	ACTIVE TELEMENTORING	MULTICENTER COMPARATIVE
Experienced surgeon; remote expert observes. Latency · image quality · dropout · usability · cognitive load.	Defined operative steps. Verbal + AR guidance. Errors · interventions · OSATS · NASA-TLX.	Remote AR telementoring vs conventional remote video/verbal mentoring. On-site safety oversight as appropriate.

23

What should we measure?

The endpoint set must extend beyond operating time.

SAFETY	PERFORMANCE	HUMAN FACTORS	TECHNICAL	IMPLEMENTATION
• Complications • Conversion • Near-miss events • Escalation	• Step accuracy • Errors • OSATS/GOALS • Mentor interventions	• NASA-TLX • Stress • Usability • Situational awareness	• Latency • Dropouts • Image quality • Annotation accuracy	• Setup time • Cost • Acceptance • Cross-site reproducibility

A successful platform must be safe, usable, reliable and educationally meaningful.

24

Three take-home messages

What I would like you to remember.

1. SMART GLASSES CAN GIVE THE MENTOR THE SURGEON'S EYES.
   First-person vision makes remote expertise more context-aware.
2. AUGMENTED REALITY CAN GIVE THOSE EYES A LANGUAGE.
   Pointers, drawings and dynamic cues can make guidance more precise.
3. ENDOMETRIOSIS IS A COMPELLING FIELD TO TEST WHAT COMES NEXT.
   But the clinical evidence is still early — rigorous staged trials are the next step.

25

The future is not remote surgery.
It is remote expertise.

Could global expertise become available without requiring the global expert to travel?

What level of evidence would make you comfortable with remote AR mentorship during complex pelvic surgery?

26

References

Selected evidence used in the lecture.

1. Carruezzo C, Goglia M, D'Alterio C, et al. Smart glasses-assisted telementoring in inguinal hernia repair: a new frontier in surgical training? Surg Endosc. 2026;40:8128–8138. doi:10.1007/s00464-026-13255-w.
2. Kambakamba P, Naiem A, Betz E, et al. Applying augmented reality in teaching of surgical residents—telementoring, a "stress-free" way to surgical autonomy? Langenbecks Arch Surg. 2024;409:100. doi:10.1007/s00423-024-03287-y.
3. Huettl F, Heinrich F, Boedecker C, et al. Real-Time Augmented Reality Annotation for Surgical Education During Laparoscopic Surgery. J Am Coll Surg. 2023;237:292–300. doi:10.1097/XCS.0000000000000712.
4. Hamza H, Aboumarzouk OM, Al-Ansari A, Navkar NV. Dynamic Augmented Reality Cues for Telementoring in Minimally Invasive Surgeries: Scoping Review. JMIR. 2025;27:e63939. doi:10.2196/63939.
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1. Inci A, Andress J, Kraemer B, et al. From Vision to Precision: A Systematic Review of Intraoperative Navigation Techniques in Endometriosis Surgery. J Minim Invasive Gynecol. 2026;33:1067–1085.e1. doi:10.1016/j.jmig.2026.03.002.
2. Steinberga I, El-Hajj VG, Cercenelli L, et al. The Use of Augmented Reality for Navigation in Minimally Invasive Abdominal and Thoracic Soft-Tissue Surgery: A Systematic Review. Sensors. 2026;26:1962. doi:10.3390/s26061962.
3. Warshafsky C, Flaxman T, Duigenan S, Singh SS. From Imaging to Visualization: Seeing the Future of Endometriosis Care. J Minim Invasive Gynecol. 2024;31:983–984. doi:10.1016/j.jmig.2024.07.001.
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6. Proximie: Augmented Reality in Surgical Education. DiepC Foundation. YouTube. Aug 27, 2024. https://www.youtube.com/watch?v=5mxFzbwvJjk

27



28

The Multiplier Effect: The Mentee Experience. A Case Study on the Impact of "Virtual Visiting Professors" on Skill Acquisition, Confidence, and Patient Outcomes in Local Centers

Presenting Kathiane Lustosa, MD · Instituto Salvata Brazil

NOVEMBER 13-16, 2026 · BOSTON · #AAGL26

1

Disclosure

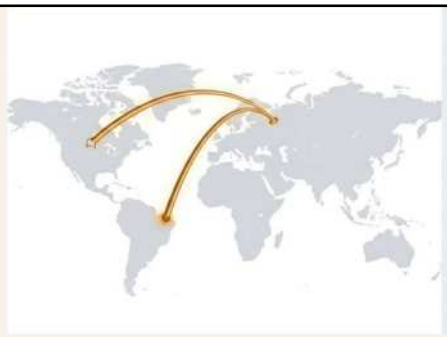
- No financial relationships to disclose.

2

Objectives

- Construct a strategic roadmap for implementing a global telementoring program, assessing the "multiplier effect" on local surgical teams and addressing barriers such as credentialing, data privacy, and connectivity.

3



Geography should not dictate access to surgical excellence.

The Reality: Expertise existed. Access did not.

Surgeons worldwide face a familiar paradox. We know what we need to learn, and we know exactly who can teach us. But that expert is often thousands of kilometers away.

4



The mentor does not take control. They help the local surgeon see the anatomy differently, anticipate the next step, and make a safer decision.

The technical guidance lasted minutes. The learning remained.

5

Current evidence proves telementoring changes individual practice.

Knowledge → Competence → Performance → Patient

28 Studies Analyzed

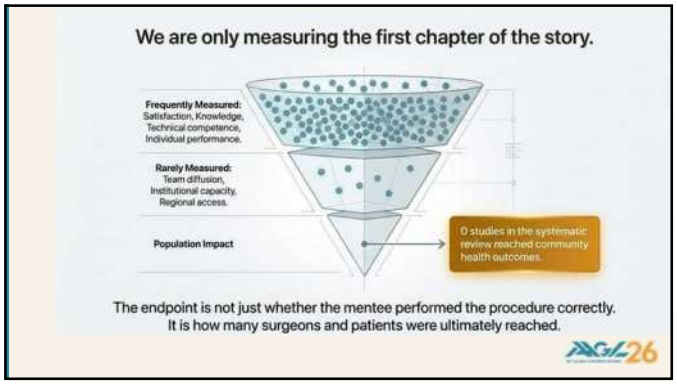
178 Surgeons Evaluated

499 Cases Reviewed

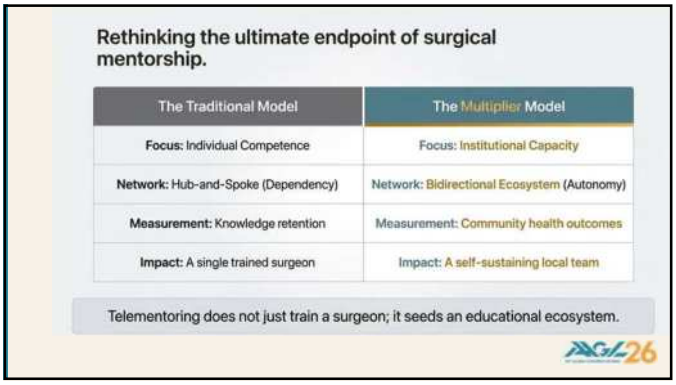
23 studies demonstrated concrete results in real-world work environments with moderate evidence of improvement.

However, these studies only evaluate the individual mentee.

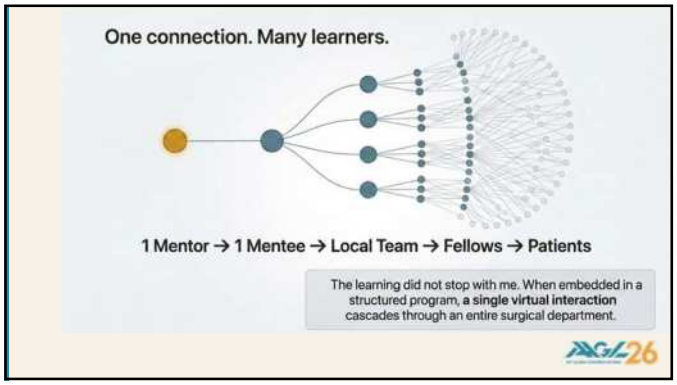
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We are only measuring the first chapter of the story.
Frequently Measured:
Satisfaction, Knowledge, Technical competence, Individual performance.
Rarely Measured:
Team diffusion, Institutional capacity, Regional access.
Population Impact
0 studies in the systematic review reached community health outcomes.
The endpoint is not just whether the mentee performed the procedure correctly.
It is how many surgeons and patients were ultimately reached.

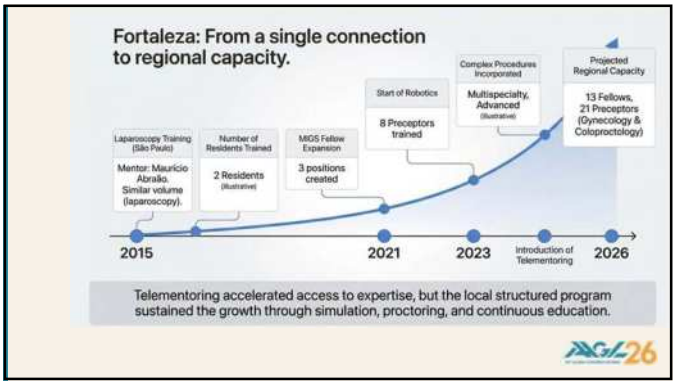
7


Rethinking the ultimate endpoint of surgical mentorship.
The Traditional Model
The Multiplier Model
Focus: Individual Competence
Focus: Institutional Capacity
Network: Hub-and-Spoke (Dependency)
Network: Bidirectional Ecosystem (Autonomy)
Measurement: Knowledge retention
Measurement: Community health outcomes
Impact: A single trained surgeon
Impact: A self-sustaining local team
Telementoring does not just train a surgeon; it seeds an educational ecosystem.

8


One connection. Many learners.
1 Mentor → 1 Mentee → Local Team → Fellows → Patients
The learning did not stop with me. When embedded in a structured program, a single virtual interaction cascades through an entire surgical department.

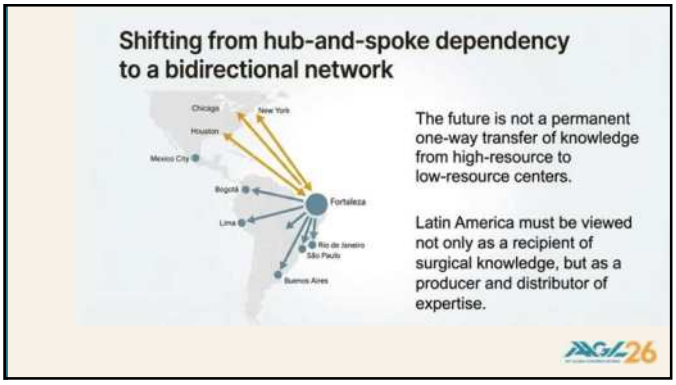
9


Fortaleza: From a single connection to regional capacity.
Laparoscopy Training (São Paulo)
Mentor: Maurício Abraão. Similar volume (laparoscopy).
Number of Residents Trained
2 Residents (Illustrative)
MIGS Fellow Expansion
3 positions created
Start of Robotics
8 Preceptors trained
Complex Procedures Incorporated
Multispecialty, Advanced (Illustrative)
Projected Regional Capacity
13 Fellows, 21 Preceptors (Gynecology & Coloproctology)
2015
2021
2023
Introduction of Telementoring
2026
Telementoring accelerated access to expertise, but the local structured program sustained the growth through simulation, proctoring, and continuous education.

10


The multiplier effect is completed when the mentee becomes a mentor.
Fortaleza was once the endpoint of mentorship.
Now, it is becoming a node.

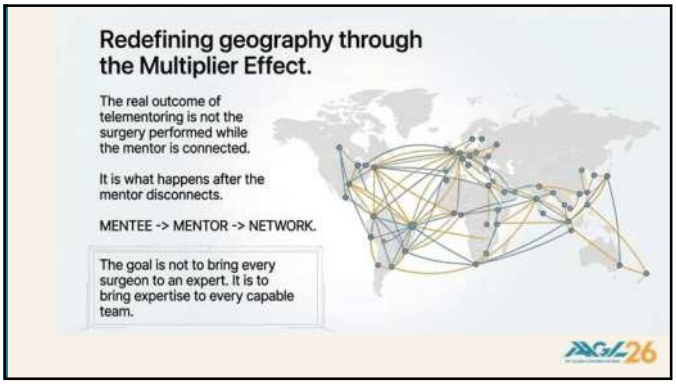
11


Shifting from hub-and-spoke dependency to a bidirectional network
Chicago
New York
Houston
Mexico City
Bogotá
Fortaleza
Lima
Rio de Janeiro
São Paulo
Buenos Aires
The future is not a permanent one-way transfer of knowledge from high-resource to low-resource centers.
Latin America must be viewed not only as a recipient of surgical knowledge, but as a producer and distributor of expertise.

12



13



14

References

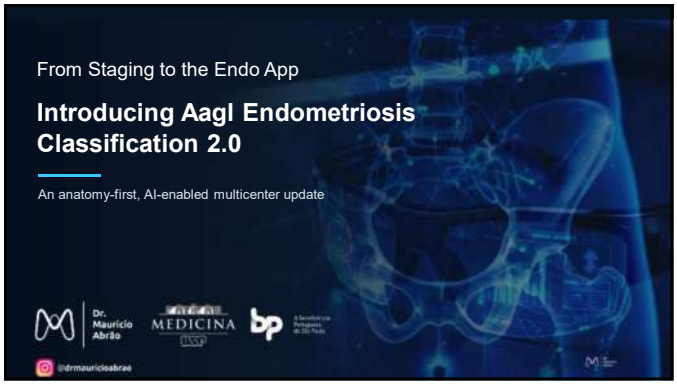
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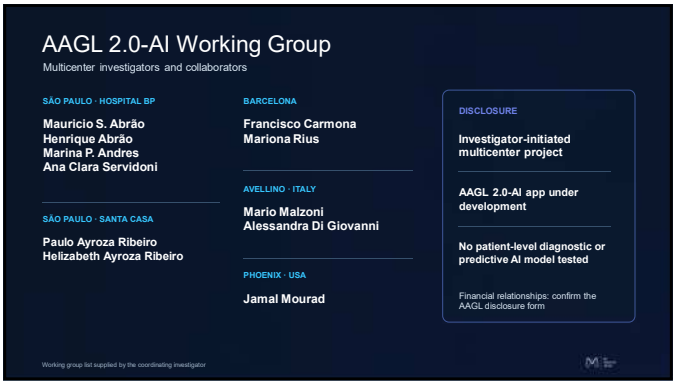
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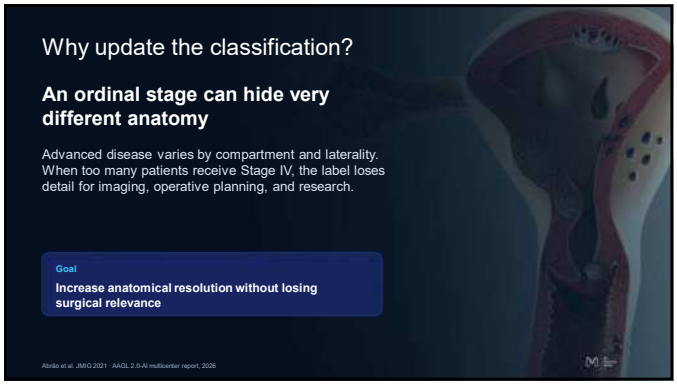
16


From Staging to the Endo App
Introducing Aagl Endometriosis Classification 2.0
An anatomy-first, AI-enabled multicenter update
Dr. Mauricio Abrão
MEDICINA
@drmauricioabrao

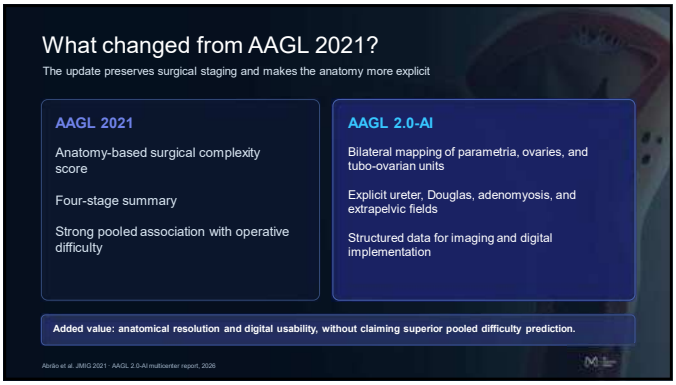
1


AAGL 2.0-AI Working Group
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AVELLINO · ITALY
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DISCLOSURE
Investigator-initiated multicenter project
AAGL 2.0-AI app under development
No patient-level diagnostic or predictive AI model tested
Financial relationships: confirm the AAGL disclosure form
Working group list supplied by the coordinating investigator

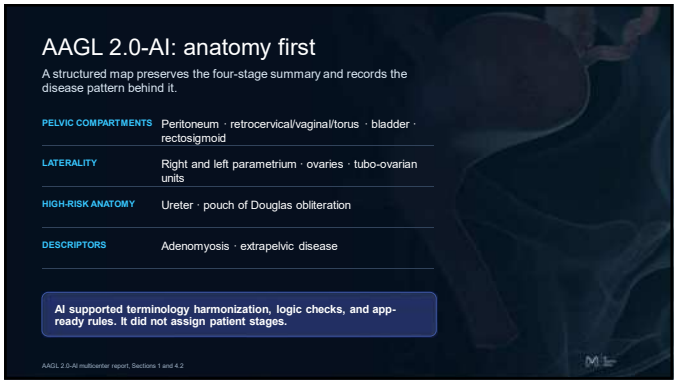
2


Why update the classification?
An ordinal stage can hide very different anatomy
Advanced disease varies by compartment and laterality. When too many patients receive Stage IV, the label loses detail for imaging, operative planning, and research.
Goal
Increase anatomical resolution without losing surgical relevance
Abrão et al. JMIG 2021 · AAGL 2.0-AI multicenter report, 2026

3


What changed from AAGL 2021?
The update preserves surgical staging and makes the anatomy more explicit
AAGL 2021
Anatomy-based surgical complexity score
Four-stage summary
Strong pooled association with operative difficulty
AAGL 2.0-AI
Bilateral mapping of parametria, ovaries, and tubo-ovarian units
Explicit ureter, Douglas, adenomyosis, and extrapelvic fields
Structured data for imaging and digital implementation
Added value: anatomical resolution and digital usability, without claiming superior pooled difficulty prediction.
Abrão et al. JMIG 2021 · AAGL 2.0-AI multicenter report, 2026

4


AAGL 2.0-AI: anatomy first
A structured map preserves the four-stage summary and records the disease pattern behind it.
PELVIC COMPARTMENTS
Peritoneum · retrocervical/vaginal/torus · bladder · rectosigmoid
LATERALITY
Right and left parametrium · ovaries · tubo-ovarian units
HIGH-RISK ANATOMY
Ureter · pouch of Douglas obliteration
DESCRIPTORS
Adenomyosis · extrapelvic disease
AI supported terminology harmonization, logic checks, and app-ready rules. It did not assign patient stages.
AAGL 2.0-AI multicenter report, Sections 1 and 4.2

5


How AI contributed
An analyst-in-the-loop support layer
USED FOR
Terminology harmonization
Logic and consistency checks
Exploration of weights and cutoff behavior
Structured rules for the Endo App
NOT TESTED
Autonomous staging
Image interpretation
Individual outcome prediction
No patient-level AI performance claim
The clinical team retained responsibility for every scoring rule and interpretation.
AAGL 2.0-AI multicenter report, Sections 1 and 4.4

6

Study design

Updated multicenter database with retrospective and prospective records

OBJECTIVE

Evaluate stage differentiation, anatomical resolution, and clinical validity

01	02	03	04
DATASET	COMPARISON	VALIDATION	CLINICAL PROFILE
Four centers 494 records	AAGL 2.0-AI AAGL 2021 · rASRM	Surgical difficulty four-level ordinal scale	Symptoms · infertility anatomical domains

No missing values were imputed. The analysis used the same-patient cohort whenever possible.

AAGL 2.0-AI multicenter report, Methods

7

Multicenter evaluation

494 records across four centers

São Paulo	Barcelona	Italy	Santa Casa
305	96	61	32

450 patients in the head-to-head disease cohort

342 patients with recorded surgical difficulty

Same-patient comparisons used weighted κ and stage entropy. Surgical validity used Spearman ρ and AUROC, with confidence intervals bootstrapped by center.

AAGL 2.0-AI multicenter database, 22 October 2026

8

Statistical analysis

Complementary measures of agreement, differentiation, and clinical validity

01	02	03	04
AGREEMENT	STAGE BALANCE	SURGICAL VALIDITY	CLINICAL OUTCOMES
Linear weighted kappa Exact and adjacent agreement	Normalized Shannon entropy Stage IV McNemar comparison	Spearman correlation AUROC for difficulty levels 3–4	Ordinal trend analyses Holm correction for multiplicity

3,000 bootstrap replicates for primary intervals

5,000 replicates for paired differences

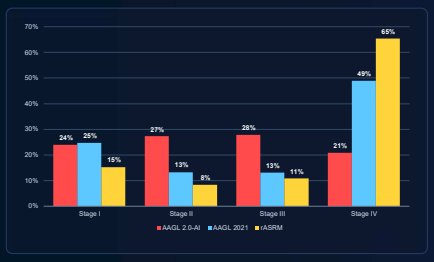
Patient-level bootstrap sampling was stratified by center. Random seed: 20261022.

AAGL 2.0-AI multicenter report, Section 4.3

9

Results: a more balanced four-stage distribution

Primary disease cohort, n=450



STAGE IV

20.9%

with AAGL 2.0-AI

48.9% AAGL 2021

65.3% rASRM

Normalized entropy
0.995

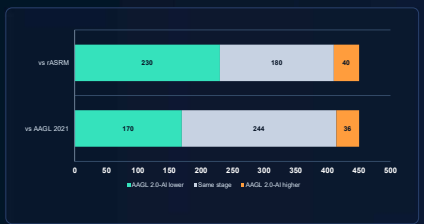
Stage IV reduction: 28.0 percentage points vs AAGL 2021 and 44.4 vs rASRM, both p<0.001.

AAGL 2.0-AI multicenter report · Table 2 and Figure 1

10

Reclassification and agreement

Primary disease cohort, n=450



WEIGHTED KAPPA

0.575 vs AAGL 2021

0.289 vs rASRM

ADJACENT AGREEMENT

89.3%

70.7%

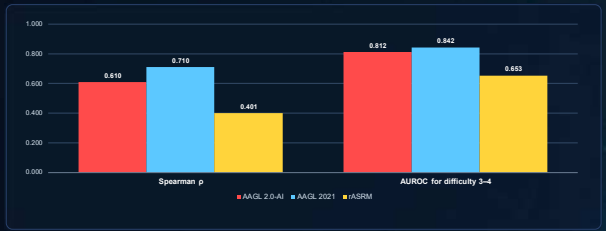
Most differences reflect decompression of advanced-stage assignments, not a systematic upward shift.

AAGL 2.0-AI multicenter report · Tables 2–4

11

Results: surgical difficulty remains clinically meaningful

Same 342 patients for all stage systems



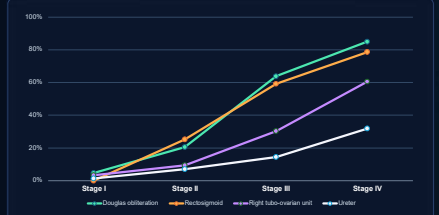
AAGL 2.0-AI clearly outperformed rASRM, but pooled superiority over AAGL 2021 was not demonstrated.

AAGL 2.0-AI multicenter report · Table 6

12

Results: stage progression reflects anatomical burden

Selected structured domains, n=494



CLINICAL SIGNALS

Infertility

21.7% in Stage I
51.9% in Stage IV

Holm-adjusted p=0.0017

Cyclic dyschezia

ρ=0.152

Holm-adjusted p=0.036

The four-stage summary retains a measurable anatomical gradient.

AAGL 2.0-AI multicenter report · Tables 7 and 8

13

Conclusion

AAGL 2.0-AI adds anatomical precision while retaining strong surgical relevance

What the data support

Less Stage IV crowding and more explicit location and laterality. Strong discrimination for surgical difficulty, clearly above rASRM.

Next scientific step

Freeze the scoring protocol, test interobserver reliability, and complete prospective external validation.

Pooled superiority over AAGL 2021 for surgical difficulty was not demonstrated.

AAGL 2.0-AI multicenter report, 2026

14

AAGL / ENDOMETRIOSIS

CONCEPT PREVIEW · IN DEVELOPMENT

THE NEXT CHAPTER

AAGL 2.0-AI

Every finding.
A complete picture.



Mauricio S. Abrão & the AAGL Working Group

AAGL GLOBAL CONGRESS 2026

AAGL 2.0-AI

15

CULTURAL AND LINGUISTIC COMPETENCY & IMPLICIT BIAS

The California Medical Association (CMA) outlines standards for Cultural Linguistic Competency and Implicit Bias in CME. The goal of the standards is to support the role of accredited CME in advancing diversity, health equity, and inclusion in healthcare. These standards are relevant to ACCME-accredited, CMA-accredited, and jointly accredited providers located in California. AAGL is ACCME-accredited and headquartered in California.

CMA developed the standards in response to California legislation (Business and Professions (B&P) Code Section 2190.1), which directs CMA to draft a set of standards for the inclusion of cultural and linguistic competency (CLC) and implicit bias (IB) in accredited CME.

The standards are intended to support CME providers in meeting the expectations of the legislation. CME provider organizations physically located in California and accredited by CMA CME or ACCME, as well as jointly accredited providers whose target audience includes physicians, are expected to meet these expectations which began on January 1, 2022. AAGL has been proactively adopting processes that meet and often exceed the required expectations of the legislation.

CMA CME offers a variety of resources and tools to help providers meet the standards and successfully incorporate CLC & IB into their CME activities, including FAQ, definitions, a planning worksheet, and best practices. These resources are available on the CLC and IB standards page on the CMA website.

Important Definitions:

Cultural and Linguistic Competency (CLC) – The ability and readiness of health care providers and organizations to humbly and respectfully demonstrate, effectively communicate, and tailor delivery of care to patients with diverse values, beliefs, identities and behaviors, in order to meet social, cultural and linguistic needs as they relate to patient health.

Implicit Bias (IB) – The attitudes, stereotypes and feelings, either positive or negative, that affect our understanding, actions and decisions without conscious knowledge or control. Implicit bias is a universal phenomenon. When negative, implicit bias often contributes to unequal treatment and disparities in diagnosis, treatment decisions, levels of care and health care outcomes of people based on race, ethnicity, gender identity, sexual orientation, age, disability and other characteristics.

Diversity – Having many different forms, types or ideas; showing variety. Demographic diversity can mean a group composed of people of different genders, races/ethnicities, cultures, religions, physical abilities, sexual orientations or preferences, ages, etc.

Direct links to AB1195 (CLC), AB241 (IB), and the B&P Code 2190.1:

Bill Text – AB-1195 Continuing education: cultural and linguistic competency.
Bill Text – AB-241 Implicit bias: continuing education: requirements.
Business and Professions (B&P) Code Section 2190.1

CLC & IB Online Resources:

Diversity-Wheel-as-used-at-Johns-Hopkins-University-12.png (850×839) (researchgate.net)
Implicit Bias, Microaggressions, and Stereotypes Resources | NEA
Act, Communicating, Implicit Bias (racialequitytools.org)
https://www.contemporaryobgyn.net/view/overcoming-racism-and-unconscious-bias-in-ob-gyn
https://pubmed.ncbi.nlm.nih.gov/34016820/
https://hr.ucdavis.edu/departments/learning/certificate/implicit-bias
https://pmc.ncbi.nlm.nih.gov/articles/PMC7011228/