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EXTERNAL OBSTETRIC EXAMINATION FOR ANTENATAL TRIAGE IN RESOURCE-CONSTRAINED SETTINGS: A CASE-BASED IMRAD REVIEW

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ABSTRACT: External obstetric examination is a frontline triage method where imaging and specialist access are limited. Objective: This article develops a case-based framework for using abdominal palpation, fundal-height interpretation and fetal auscultation to identify referral needs. Methods: International recommendations and diagnostic literature were reviewed and translated into practical triage categories. Results: Findings can be grouped into normal, uncertain and danger patterns. Discussion: The method is useful only when paired with referral pathways and documentation. Conclusion: External examination is not a substitute for ultrasound; it is a practical filter that can reduce delayed recognition of risk.

Keywords: antenatal triage; external obstetric examination; fetal lie; referral; case-based obstetrics

INTRODUCTION

Antenatal triage is the discipline of deciding who can continue routine care, who needs additional assessment and who requires urgent referral. In high-resource settings, ultrasound and laboratory systems often dominate this process. In many real clinical environments, however, the first available tools are hands, ears, a measuring tape, a fetal Doppler or Pinard stethoscope, and a clinician who must decide quickly.

External obstetric examination is therefore not merely a traditional skill. It is a triage technology: low-cost, portable and immediately available. Its limitations are obvious, but dismissing it is unrealistic. A rural or busy primary-care setting cannot wait for perfect diagnostics before identifying a transverse lie, absent fetal heart rate, severe size-date discrepancy or signs requiring referral.

The problem is that students often learn the maneuvers as a checklist without learning triage logic. A checklist tells them what to touch. A triage framework tells them what to do next. This difference matters because failure does not occur only from incorrect palpation; it occurs from correct palpation followed by no action.

This article presents a case-based IMRAD review of external obstetric examination as an antenatal triage tool in resource-constrained settings.

METHODS

The review used international guidance on antenatal care, fetal monitoring and obstetric assessment, combined with evidence on the strengths and limitations of clinical palpation. The analysis was organized around realistic case patterns rather than disease categories.

Three triage categories were constructed: green for reassuring findings, yellow for uncertain or inconsistent findings, and red for danger signs requiring urgent investigation or referral. This model is educational rather than a replacement for national protocols.

No individual patient records were used. The cases are synthetic examples designed to teach decision-making.

RESULTS

Green-pattern findings include a singleton pregnancy with longitudinal lie, cephalic presentation near term, fetal heart rate in the expected range, fundal height roughly consistent with gestational age and no alarming symptoms. This does not mean 'no risk'; it means routine follow-up with education about warning signs is appropriate.

Yellow-pattern findings include difficulty identifying fetal parts, uncertain presentation, poor auscultation conditions, discrepancy between reported gestational age and fundal height, or maternal body habitus limiting examination. The correct response is not guessing. Yellow means confirmation: ultrasound, senior review, repeat examination or closer follow-up.

Red-pattern findings include suspected transverse lie at term, persistent abnormal fetal heart rate, absent fetal heart sounds when pregnancy should be viable, severe abdominal pain, bleeding, convulsions, signs of severe hypertension or a history suggesting obstructed labor risk. External examination may identify the clue, but referral and emergency care determine the outcome.

Case 1: A 38-week pregnant patient has a broad irregular mass in the fundus and a hard round part above the pelvic inlet. Auscultation is heard above the umbilicus. The triage interpretation is suspected breech. The safest next step is confirmation and delivery planning, not reassurance based on fetal movement alone.

Case 2: A patient reports 32 weeks by dates, but fundal height is substantially smaller than expected and fetal parts are easy to feel. This may reflect incorrect dates, fetal growth restriction, low amniotic fluid or other conditions. The triage response is yellow to red depending on fetal heart rate and maternal symptoms. Measurement alone is insufficient, but it is a trigger.

Case 3: A low-risk laboring patient has normal fetal heart rate after contractions using intermittent auscultation. The appropriate pathway is continued structured monitoring. If decelerations or persistent abnormal rate are heard, the pathway changes immediately. The method is dynamic, not a one-time clearance.

Case-based result 1: A patient at term presents with suspected transverse lie. In a facility without operative delivery capacity, this is a red finding because delay can become catastrophic if labor begins. The triage decision must consider local capacity, not only the physical finding.

Case-based result 2: Fundal height is smaller than expected, but dates are uncertain. This is a yellow finding. The safest approach is confirmation, repeat assessment or referral depending on fetal movement, fetal heart rate and access to ultrasound.

Case-based result 3: A patient reports reduced fetal movement, but a single auscultation is normal. This cannot be dismissed automatically. The symptom history changes the risk category and may require further assessment.

Case-based result 4: A woman has bleeding and abdominal pain. External examination should be minimal and careful; the priority is emergency assessment and referral. Triage is not the same as completing a full routine examination.

These cases demonstrate that external examination must be embedded in a referral system. A good finding with no action pathway is weak care. A simple finding that triggers timely transfer can save lives.

The proposed result is a three-line triage note: key finding, confidence level and action. For example: 'Cephalic likely, fetal heart normal, routine follow-up' or 'presentation uncertain, ultrasound referral today'. This format is short but clinically useful.

Table 1. Statistical indicators used for clinical interpretation

Indicator	Reported value	Interpretation in this article
Recommended ANC contacts	minimum 8	Repeated assessment improves recognition of growth and presentation problems.
Maternal deaths in 2023	about 260,000	Delays in risk recognition remain dangerous.
Global caesarean-rate increase	from around 7% in 1990 to about 21% today	Triage must avoid both unnecessary and delayed intervention.
First-stage fetal auscultation interval	at least every 15 minutes in low-risk established labor	Structured monitoring is necessary after triage.
Clinical fetal-weight estimation limit	less accurate than ultrasound in some high-BMI groups	Uncertain palpation should trigger confirmation.

Table 2. Practical clinical matrix for student use

Clinical question	Most useful first assessment	Escalation trigger
Routine or referral?	Green-yellow-red triage category	Red findings or persistent uncertainty
Are dates and size consistent?	Fundal height and history comparison	Large discrepancy or reduced movements
Can the facility manage risk?	Match finding to local capacity	No emergency capacity with abnormal finding

DISCUSSION

The value of a triage framework is that it protects students from two opposite errors: false reassurance and unnecessary panic. Green does not mean perfect safety; red does not mean a diagnosis has been completed. The categories are action labels, not final diagnoses.

This framework also makes external examination more teachable. Instead of asking students only to name fetal presentation, teachers can ask: 'What category is this case and what is the next safest action?' That question is harder and more clinically relevant.

Resource-constrained settings require particular honesty about limitations. If ultrasound is unavailable, documentation should clearly state uncertainty. If referral transport is delayed, early recognition becomes even more important. If a facility cannot perform emergency obstetric intervention, the threshold for referral should be lower.

A major tradeoff is intervention timing. Over-referral burdens higher-level facilities and families; under-referral can be fatal. The solution is not perfect prediction, which does not exist, but

standardized thresholds and feedback. Facilities should review cases where triage failed and adjust training accordingly.

The triage model should be adapted to transport reality. In a city, a yellow finding may be confirmed the same day. In a remote area, the same finding may justify earlier referral because delay converts uncertainty into risk. Therefore, geography is part of clinical decision-making.

Antenatal cards should be designed so that abnormal findings cannot be hidden in free text. Checkboxes for lie, presentation, fetal heart rate, fundal height and referral decision make supervision easier and reduce missed patterns.

The strongest advantage of the green-yellow-red model is that it is memorable under pressure. Complex scoring systems often fail in busy settings, but three categories can guide action even when time is limited. Simplicity is not weakness if thresholds are clear.

A red category should never depend on one sign only when multiple danger signs are present. Bleeding plus pain plus abnormal fetal heart rate is not three separate problems; it is one escalating emergency. Triage must synthesize patterns.

The edge case is the patient who arrives late in pregnancy without reliable dates. Fundal height becomes less precise, and fetal growth assessment is harder. In such cases, uncertainty should lower the threshold for confirmation rather than encourage guesswork.

Another edge case is reduced fetal movement with a normal single auscultation finding. A normal momentary heart rate does not always explain reduced movement. History and follow-up matter.

Triage quality also depends on community education. Pregnant women and families should know that bleeding, severe headache, convulsions, reduced fetal movement, fever and severe abdominal pain are not symptoms to observe at home. Community delay can defeat good facility triage.

The external examination record should be auditable. If a referral is made, the receiving facility should be able to see the reason clearly. If no referral is made, the rationale should also be visible. This protects continuity and accountability.

A danger in low-resource settings is overconfidence created by necessity. Lack of ultrasound does not make palpation more accurate. It only makes honest uncertainty more important. Students must be trained to say when they do not know.

The model also supports teamwork. Nurses, midwives and doctors can use the same green-yellow-red language. Shared categories reduce confusion during handover and make escalation faster.

The triage framework can be incorporated into morning case review. Each referred case can be discussed by asking whether the category was correct, whether referral was timely and whether documentation was sufficient. This converts individual cases into system learning.

Training should include false-positive and false-negative examples. Over-referral has costs, but missed danger has greater cost. Seeing both types of error helps students understand that triage is a balance, not a guarantee.

The model should also respect patient autonomy. Referral advice must include explanation of the suspected risk, expected benefit and urgency. Orders without explanation may be ignored, especially when travel is difficult or expensive.

The final added result is that external examination works best when paired with a written escalation map. Without an escalation map, a clinician may identify risk but still lose time deciding where to send the patient.

When resources are limited, the threshold for action must consider time. A finding that is moderately concerning in a hospital can be highly concerning in a remote clinic because transfer takes longer. Risk is multiplied by distance.

The method is also useful for teaching case discussions. Students can be given short antenatal scenarios and asked to assign a color category, justify it and write a referral note. This tests reasoning rather than memory.

Ethically, triage should not become a way to deny care. Its purpose is to prioritize risk and organize referral. Patients in the green category still deserve education, respectful examination and clear return instructions.

The final result is a practical algorithm: assess key findings, state confidence, identify category, match category to local capacity and document the action. This algorithm is simple enough for student use and strong enough to reduce missed danger signs.

The tradeoff in referral is cost to the family versus risk of delay. A responsible system should not push all uncertainty onto patients. Clear referral criteria and communication with higher-level facilities reduce unnecessary hardship.

Student training should include documentation under imperfect conditions. Many learners can write good notes after a textbook case, but real triage requires concise notes when the clinic is crowded and information is incomplete.

Local adaptation matters. A district with difficult roads, seasonal flooding or limited ambulance access should use earlier referral thresholds. Obstetric risk is not only biological; it is logistical.

A future audit could measure how many antenatal referrals were triggered by abnormal lie, abnormal fetal heart rate or size-date discrepancy, and whether documentation included a clear reason. This would convert teaching into quality improvement.

External examination can also identify communication needs. If a woman has never been told why fetal position matters, she may not understand referral advice. Explaining the reason increases cooperation and reduces fear.

A future research project could compare student triage decisions before and after training with the green-yellow-red model. Outcomes could include correct referral decisions, documentation quality and confidence calibration.

The limitation of this article is that it proposes an educational framework, not a validated scoring tool. Validation would require prospective data, including sensitivity, specificity, referral outcomes and patient acceptability in local settings.

The smallest practical change is to add a three-color triage line to antenatal examination records: reassuring, uncertain or danger. This forces the examiner to convert findings into action and makes supervision easier.

CONCLUSION

External obstetric examination is useful because it converts limited tools into early risk recognition. It should be neither romanticized nor dismissed.

In resource-constrained settings, its safest role is as a triage filter connected to documentation, confirmation and referral pathways.

REFERENCES

1. World Health Organization. New guidelines on antenatal care for a positive pregnancy experience. 2016. https://www.who.int/news/item/07-11-2016-new-guidelines-on-antenatal-care-for-a-positive-pregnancy-experience

2. World Health Organization. Maternal mortality. Fact sheet, updated 7 April 2025. https://www.who.int/news-room/fact-sheets/detail/maternal-mortality

3. National Institute for Health and Care Excellence. Fetal monitoring in labour, NICE guideline NG229. 2022, updated. https://www.nice.org.uk/guidance/ng229

4. Superville SS, Siccardi MA. Leopold Maneuvers. StatPearls. Updated 2024. National Center for Biotechnology Information.

5. Preyer O, et al. Fetal weight estimation at term: ultrasound versus clinical examination with Leopold's manoeuvres. BMC Pregnancy and Childbirth. 2019.

6. Angolile CM, et al. Global increased cesarean section rates and public health implications. 2023.