

# Managing Pregnancy of Unknown Location at an Early Pregnancy Assessment Service: Insights from a Retrospective Audit

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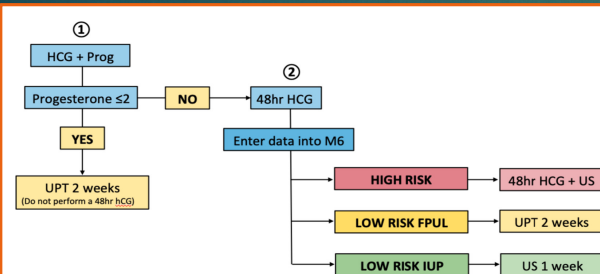
Northern Health

## Background

The Northern Health Early Pregnancy Assessment Service (EPAS) has experienced increased demand, requiring additional staffing to manage early pregnancy concerns, including miscarriage, ectopic pregnancy, and pregnancy of unknown location (PUL).

Currently lacking local guidelines for PUL, all patients are considered high risk, mandating weekly clinic reviews and tracking serum beta-HCG until negative.

Mathematical models categorize PUL into low or high risk, rationalising follow-up. These models rely on serial beta HCG measurements 48 hours apart (M4) as well as an initial serum progesterone level (M6).



M6 protocol (Bobdiwala et al)

## Aim

To retrospectively evaluate PUL management and outcomes, identifying opportunities for implementation of a safe and efficient guideline at Northern Health's EPAS.

## Methods

The audit reviewed PUL cases over six months in 2023. Patients with two serum beta-HCG levels 48 hours apart were categorised by the M4 model as low- or high-risk, and compared to the patient's final diagnosis.

## Outcome

97 patients (20%) were managed for PUL with 368 appointments. 29 patients had appropriately timed follow up beta HCG testing and were able to be triaged with the M4 model. One ectopic pregnancy and two persistent PUL cases were identified, all classified as high risk. The audit revealed an average of 3.8 follow-up appointments per low-risk patient (range 1-16).

Final diagnosis	High risk	Low risk	Total
Ectopic	1	0	1
Failed IUP	1	0	1
Failed PUL	5	14	19
Ongoing IUP	1	3	4
Persistent PUL	2	0	2
Lost to follow up/Misdiagnosed	0	2	2
Grand Total	10	19	29

## Recommendations

Our study used the M4 model due to unavailability of serum progesterone levels, but validated the accepted safety described previously. The M6 model, with higher sensitivity and negative predictive value, effectively triaged most PUL cases as low risk for ectopic pregnancy, reducing follow-up to two visits. This audit proposes implementing a local guideline at Northern Health for managing PULs. This proposed guideline would incorporate serum progesterone testing in order to reduce cost, improve efficiency, and potentially enhance patient satisfaction without compromising safety.

## References

1. Bobdiwala S, et al. Ultrasound Obstet Gynecol. 2020;55(1):105-114. doi:10.1002/uog.20420.
2. Aust NZ J Obst Gynaeco. 2020;61(1):100-105. 28 September 2020. doi:10.1111/ajo.13252.