

DIAGNOSTIC TEST UNIT

Goal:

At the completion of this module the participant will be able to critically appraise (risk of bias, results, and applicability) a paper about diagnostic tests.

Instructional Objectives:

At the completion of this module you will be able to:

1. assess the validity of an article about diagnosis
2. calculate and interpret Likelihood Ratios (LR)
3. determine the applicability of a diagnostic test to a particular situation.

Assignments:

1. Read the Clinical Scenario.
2. Compose a well-built clinical (foreground) question about the clinical problem.
3. Complete a literature search using the headings from your clinical question, and bring the results to the session.
4. Read the Users' Guides to the Medical Literature reference articles (please see below).
5. Complete the Users' Guides to the Medical Literature Worksheet.
6. Determine whether the result of this diagnostic test should influence your approach to the patient in the clinical scenario.

Enclosed Materials:

1. Diagnostic Accuracy of Placental Growth Factor in Women With Suspected Preeclampsia: A Prospective Multicenter Study. Lucy C. Chappell, Suzy Duckworth, Paul T. Seed, Melanie Griffin, Jenny Myers, Lucy Mackillop, Nigel Simpson, Jason Waugh, Dilly Anumba, Louise C. Kenny, Christopher W.G. Redman and Andrew H. Shennan. *Circulation*. 2013;128:2121-2131
2. Guyatt G, Drummond R. *User's Guides to the Medical Literature: A Manual for Evidence Based Clinical Practice*, 3rd Edition (JAMA). New York, NY: The McGraw-Hill Companies, Inc, 2015. 18. Diagnostic Tests
3. Critical Appraisal Form for Diagnostic Tests.

Clinical Scenario:

A 32 year old nulliparous pregnant Caucasian female with no significant past medical history or smoking history presents to your office to establish care. When asked, she mentions having infrequent frontal headaches with no radiation.

Her physical exam is mostly unremarkable with the exception of her blood pressure of 135/85, a gravid uterus and +1 lower limb edema. She also has +1 protein in her urine.

The patient asks if she should be concerned about preeclampsia. You recently received information that a local lab is offering a new blood test (Placental Growth Factor (PIGF)) to diagnose preeclampsia but you are unclear if the test is superior to traditional clinical judgment and decide to determine if you should order this test for your patient.

You formulate a PICO Question on the performance of the PIGF to rule out preeclampsia.

- Population: pregnant women with suspected preeclampsia
- Intervention: testing with PIGF
- Comparison: clinical diagnosis without PIGF testing
- Outcome: preeclampsia

Your search of the literature presents the following paper: Diagnostic Accuracy of Placental Growth Factor in Women With Suspected Preeclampsia: A Prospective Multicenter Study. Lucy C. Chappell, Suzy Duckworth, Paul T. Seed, Melanie Griffin, Jenny Myers, Lucy Mackillop, Nigel Simpson, Jason Waugh, Dilly Anumba, Louise C. Kenny, Christopher W.G. Redman and Andrew H. Shennan. *Circulation*. 2013;128:2121-2131