

# Package: ebaTools (via r-universe)

September 27, 2026

**Title** Evidence-Based Assessment Tools for Diagnostic Test Evaluation

**Version** 0.1.0

**Description** Provides functions for evidence-based assessment of diagnostic tests. Includes calculation of common diagnostic accuracy statistics, Bayesian updating of probabilities, interpretation of likelihood ratios, and visualization using a Fagan nomogram.

**License** MIT + file LICENSE

**Encoding** UTF-8

**Roxygen** list(markdown = TRUE)

**RoxygenNote** 8.0.0

**URL** <https://github.com/rmcgill777/ebaTools>

**BugReports** <https://github.com/rmcgill777/ebaTools/issues>

**Repository** <https://rmcgill777.r-universe.dev>

**Date/Publication** 2026-07-19 18:17:50 UTC

**RemoteUrl** <https://github.com/rmcgill777/ebatools>

**RemoteRef** HEAD

**RemoteSha** 43cf2e9476c6e1d43fa0a538e7ae5b1d7e701690

## Contents

|                              |          |
|------------------------------|----------|
| bayes_update . . . . .       | 2        |
| eba_interpretation . . . . . | 2        |
| eba_stats . . . . .          | 3        |
| fagan_nomogram . . . . .     | 4        |
| <b>Index</b>                 | <b>5</b> |

---

|              |                          |
|--------------|--------------------------|
| bayes_update | <i>Bayesian Updating</i> |
|--------------|--------------------------|

---

### Description

Calculate post-test probabilities from a pre-test probability and positive/negative likelihood ratios.

### Usage

```
bayes_update(pretest_probability, lr_positive, lr_negative)
```

### Arguments

|                     |                                                                      |
|---------------------|----------------------------------------------------------------------|
| pretest_probability | Numeric value between 0 and 1 representing the pre-test probability. |
| lr_positive         | Positive likelihood ratio.                                           |
| lr_negative         | Negative likelihood ratio.                                           |

### Value

An object of class "bayes\_update" containing:

**pretest\_probability** Original pre-test probability.

**post\_positive** Post-test probability following a positive test.

**post\_negative** Post-test probability following a negative test.

---

|                    |                                                 |
|--------------------|-------------------------------------------------|
| eba_interpretation | <i>Evidence-Based Assessment Interpretation</i> |
|--------------------|-------------------------------------------------|

---

### Description

Interpret a post-test probability using evidence-based assessment decision thresholds.

### Usage

```
eba_interpretation(
  post_probability,
  wait_threshold = 0.1,
  treat_threshold = 0.7
)
```

**Arguments**

post\_probability      Numeric value between 0 and 1.

wait\_threshold      Threshold below which the condition is considered unlikely. Default = 0.10.

treat\_threshold      Threshold above which the condition is considered likely. Default = 0.70.

**Value**

An object of class "eba\_interpretation".

---

|           |                                             |
|-----------|---------------------------------------------|
| eba_stats | <i>Evidence-Based Assessment Statistics</i> |
|-----------|---------------------------------------------|

---

**Description**

Calculate evidence-based assessment statistics from a  $2 \times 2$  contingency table.

**Usage**

```
eba_stats(tp, fp, fn, tn)
```

**Arguments**

tp      Number of true positives.

fp      Number of false positives.

fn      Number of false negatives.

tn      Number of true negatives.

**Value**

An object of class "eba\_stats".

**Examples**

```
eba_stats(  
  tp = 50,  
  fp = 10,  
  fn = 5,  
  tn = 100  
)
```

---

|                |                       |
|----------------|-----------------------|
| fagan_nomogram | <i>Fagan Nomogram</i> |
|----------------|-----------------------|

---

**Description**

Plot pre-test and post-test probabilities using likelihood ratios.

**Usage**

```
fagan_nomogram(pretest_probability, lr_positive, lr_negative)
```

**Arguments**

|                     |                                |
|---------------------|--------------------------------|
| pretest_probability | Numeric value between 0 and 1. |
| lr_positive         | Positive likelihood ratio.     |
| lr_negative         | Negative likelihood ratio.     |

**Value**

Invisibly returns the calculated probabilities.

# Index

bayes\_update, [2](#)

eba\_interpretation, [2](#)

eba\_stats, [3](#)

fagan\_nomogram, [4](#)