



## Type I and Type II Errors

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Bear in mind, however, that we usually don't know whether  $H_0$  is actually true or not. Otherwise, why run the test?



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The names "false positive" and "false negative" come from medical testing, which uses much the same logic as hypothesis testing.



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The names "false positive" and "false negative" come from medical testing, which uses much the same logic as hypothesis testing.

	$H_0$ is true	$H_0$ is false
$H_0$ is rejected	Type I Error	✓
$H_0$ is not rejected	✓	Type II Error



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- A restaurant claims that the mean sodium content of one of its sandwiches is 920 mg. After analyzing a sample, I found insufficient evidence to reject the claim ( $p = .027 > .01 = \alpha$ ). If the restaurant's claim had actually be false, I would have committed a type II error.

