DIAGNOSTIC TESTS

		Disease State (gold standard test)		Totals
		Present	Absent	
Diagnostic Test	Positive	a	b	
	Negative	c	d	
Totals				

Sensitivity = a/ a+c

Specificity = d/ b+d

"SpP"IN – When a test has a high **Sp**ecificity, a **P**ositive result, rules **IN** the diagnosis

"SnN" OUT – When a test has a high **Sen**sitivity, a **N**egative result, rules **OUT** the diagnosis

Likelihood Ratio for positive test = LR+ = sensitivity / (1- specificity)

Likelihood Ratio for negative test = LR- = (1- sensitivity) / specificity

LR influences the pre-test probability by a factor.

Pre-Test Probability (prevalence) = (a + c)/ (a + b + c + d)

Pre-Test Odds = prevalence/ (1 – prevalence)

Post-Test Odds = Pre-Test Odds x LR

Post-test Probability = post-test odds/ (post-test odds +1)

What is a large effect for the LR?

>10 or < 0.1	large effect
5-10 or 0.1-0.2	moderate effect
2-5 or 0.5-0.2	small effect
1-2 or 0.5 to 1	no effect