

	PBC Disease	No PBC Disease
M&M exposure	A	B
No M&M exposure	C	D

$$\text{Odds of PBC among those with M\&M's exposure} = \frac{\text{\# with PBC among those with M\&M's exposure}}{\text{\# without PBC among those with M\&M's exposure}} = \frac{A}{B} =$$

$$\text{Odds of PBC among those without M\&M's exposure} = \frac{\text{\# with PBC among those without M\&M's exposure}}{\text{\# without PBC among those without M\&M's exposure}} = \frac{C}{D} =$$

$$\text{Odds Ratio} = \frac{\text{Odds of PBC among the exposed}}{\text{Odds of PBC among the unexposed}} =$$

$$\text{Standard Error of the Ln(OR)} = \sqrt{\frac{1}{A} + \frac{1}{B} + \frac{1}{C} + \frac{1}{D}}$$

$$\text{95\% Confidence Limit for the Odds Ratio} = \exp\left(\ln\left(\frac{A * D}{B * C}\right) \pm 1.96 * \sqrt{\frac{1}{A} + \frac{1}{B} + \frac{1}{C} + \frac{1}{D}}\right)$$