

$$\exp(A + B) = \exp(A) \cdot \exp(B) \quad \exp(AB) = \exp(A)^B = \exp(B)^A$$

$$\ln(GFR) = \beta_0 + \beta_1 \cdot \ln(CR) + E \quad E \sim N(0, \sigma^2)$$

$$\begin{aligned} GFR &= \exp[\beta_0 + \beta_1 \cdot \ln(CR) + E] \\ &= \exp[\beta_0] \cdot \exp[\beta_1 \cdot \ln(CR)] \cdot \exp[E] \\ &= \exp[\beta_0] \cdot CR^{\beta_1} \cdot \exp[E] \end{aligned}$$

$$\begin{aligned} Median(GFR) &= \exp[\beta_0] \cdot \exp[\beta_1 \cdot \ln(CR)] \\ &= \exp[\beta_0] \cdot CR^{\beta_1} \end{aligned}$$

$$95\% PI = Median / \exp(1.96 \cdot \sigma); Median \cdot \exp(1.96 \cdot \sigma)$$

$$\beta_1 = -1 \Leftrightarrow GFR = \exp(\beta_0) \cdot CR^{-1} \Leftrightarrow GFR \cdot CR = \text{constant}$$