

# Functional form

$$\mathcal{N}(x|\mu, \gamma^{-1}) = \frac{\sqrt{\gamma}}{\sqrt{2\pi}} e^{-\gamma \frac{(x-\mu)^2}{2}}$$

$$\mathcal{N}(x|\mu, \gamma^{-1}) \propto \gamma^{\frac{1}{2}} e^{-b\gamma}$$

~~$$p(\gamma) \propto \gamma^{\frac{1}{2}} e^{-b\gamma}?$$~~

~~$$p(\gamma|x) = \frac{p(x|\gamma)p(\gamma)}{p(x)} \propto \gamma e^{-\gamma(b + \frac{(x-\mu)^2}{2})}$$~~

