

$$ENP(yrdline = x) =$$

$$\begin{aligned} & \text{Prob}(O | yrdline = x) * [(ExpPTS_0 | O, yrdline = x) - V_K] \\ & - \text{Prob}(D | yrdline = x) * [(ExpPTS_D | D, yrdline = x) + V_K] \\ & + [1 - \text{Prob}(O | yrdline = x) - \text{Prob}(D | yrdline = x)] * \\ & (ExpNetPTS | NoTD, NoFG, yrdline = x) \end{aligned}$$

$$V_K^{rec} =$$

$$\begin{aligned} & \text{Prob}(O | KO 1^{st} Down) * [(ExpPTS_0 | O, KO 1^{st} down) - V_K^{rec}] \\ & - \text{Prob}(D | KO 1^{st} Down) * [(ExpPTS_D | D, KO 1^{st} down) + V_K^{rec}] \\ & + [1 - \text{Prob}(O | KO 1^{st} Down) - \text{Prob}(D | KO 1^{st} Down)] * \\ & (ExpNetPTS | NoTD, NoFG, KO 1^{st} down) \end{aligned}$$

$$\text{Solving } V_K^{rec} = \frac{\text{Prob}(O) * ExpPTS_0 + \text{Prob}(D) * ExpPTS_D + [1 - \text{Prob}(O) - \text{Prob}(D)] * ExpNetPTS}{1 + \text{Prob}(O) + \text{Prob}(D)}$$