

Appendix

The Relationship Between Probability and Odds and the Use of the Logit Function to Calculate the Posttest Probability

The probability of a stable ankle mortise in different situations was calculated with a logit (logit = ln[odds]) function as follows:

$$\text{Probability (P)} = \frac{\text{odds}}{1 + \text{odds}} = e^{(\text{logit})} / (1 + e^{(\text{logit})}) = e^{(a + b_1 x_1 + b_2 x_2 + \dots + b_k x_k)} / (1 + e^{[a + b_1 x_1 + b_2 x_2 + \dots + b_k x_k]})$$

where a = a constant, the b_i values are regression coefficients, and k is the number of covariates.

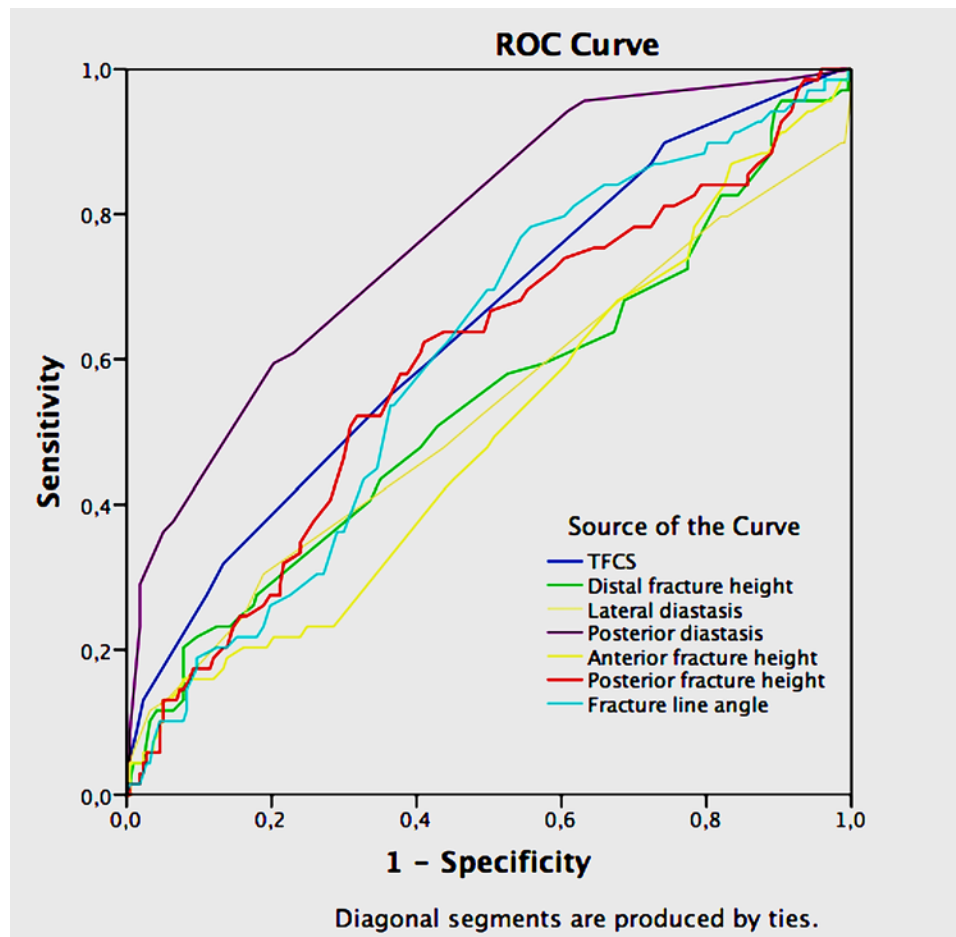


Fig. E-1

The receiver operating characteristic (ROC) curves showing the ability of the measurements on non-stress radiographs to distinguish between the stable and unstable groups. Only the posterior diastasis on lateral radiographs (in purple) had adequate area under the curve (0.78 [95% confidence interval, 0.71 to 0.84]). The selected threshold of <2 mm for posterior diastasis corresponded to a sensitivity of 0.94 and a specificity of 0.39. TFCS = tibiofibular clear space.