Supplemental material to

Biomarker-derived Fast-and-frugal decision tree for preemption of Veno-occlusive Disease/Sinusoidal obstructive syndrome

Supplemental Table 1. Comparison of fast-and-frugal decision trees (FFT) without and with thresholds (FFTT)

	FFT(11) with threshold	FFT(11) w/o threshold
Sens	0.8000 [0.7686, 0.8314]	0.8000 [0.7686, 0.8314]
Spec	0.7286 [0.7230, 0.7341]	0.7286 [0.7230, 0.7341]
PPV	0.2963	0.2963
NPV	0.9623	0.9623
FA	0.2714 [0.2659, 0.2770]	0.2714 [0.2659, 0.2770]
LR+	2.9474 [1.7997, 4.8270]	2.9474 [1.7997, 4.8270]
LR-	0.2745 [0.0788, 0.9561]	0.2745 [0.0788, 0.9561]
A'	0.8466	0.8466
B''	-0.1055	-0.1055
c	-0.1166 [-0.1518,-0.0813]	-0.1166 [-0.1518,-0.0813]
d'	1.4501 [-0.8788, 3.7790]	1.4501 [-0.8788, 3.7790]
mcu	2.6375 (speed)	2.6375 (speed)
pci	0.1208 (frugality)	0.1208 (frugality)

Abbreviations:

Sens- sensitivity; Spec- specificity; PPV- positive predictive value; NPV- negative predictive value; FA- false alarms (positives); LR+: likelihood ratio positive; LR-: likelihood ratio negative

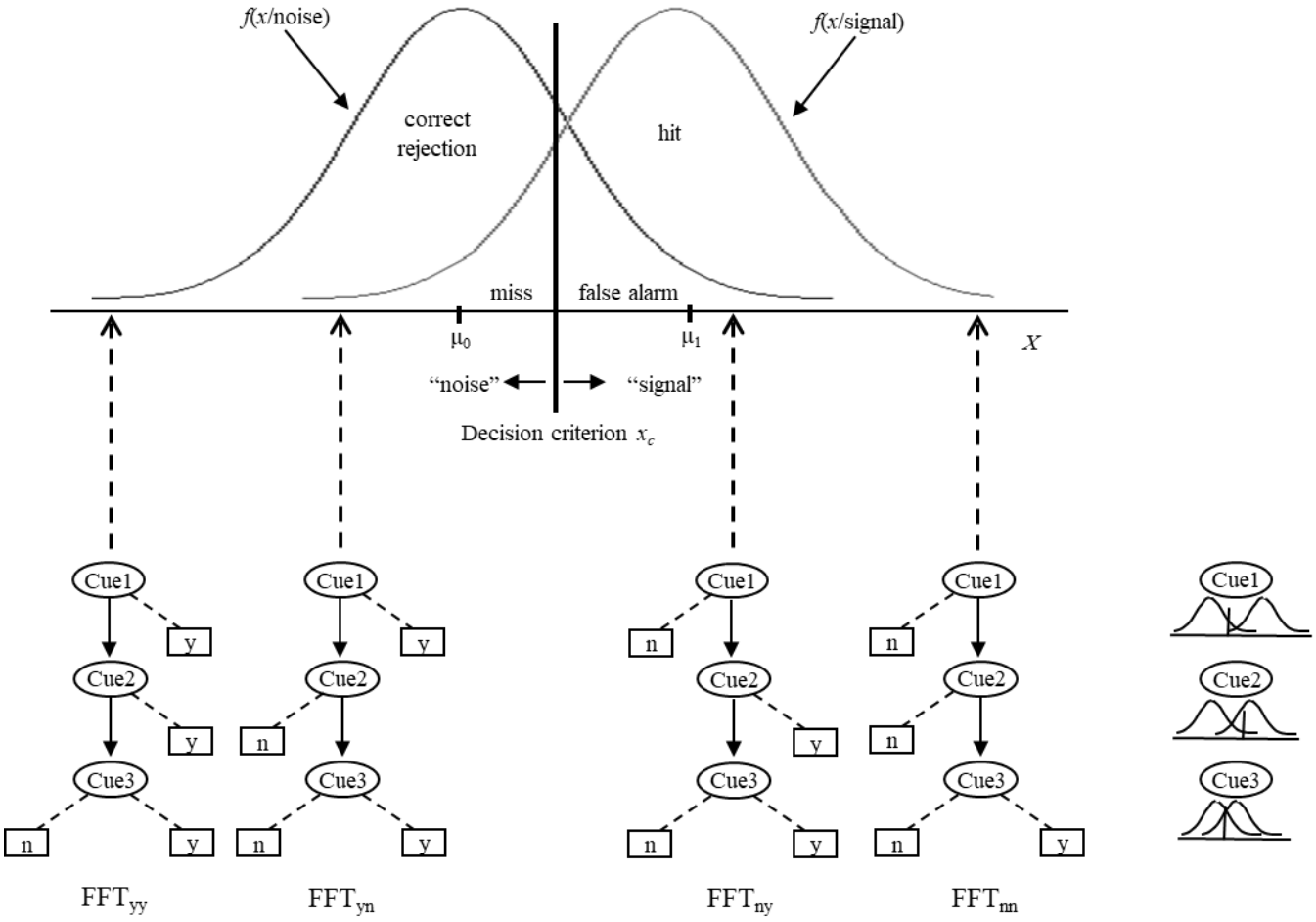
d'(discriminability) (a measure the distance between the signal i.e. disease and the noise- the absence of a disease expressed as means in standard deviation units); c(decision criterion) (a defined as the distance between the criterion and the neutral point, where making decisions are consistent with prior probabilities) ; A'- nonparametric measure of d'; B"- nonparametric measure of c; mcu- speed, which

measures mean cues used (mcu), the average number of cue, averaged across all cases, used in making a decision. pci: frugality, a measure of percent cues ignored (pci), defined as (1-mcu) divided by the total number of cues in the dataset (i.e., the maximum possible mcu value)

Supplemental Table 2. SOSy/n model vs FFT classification performance

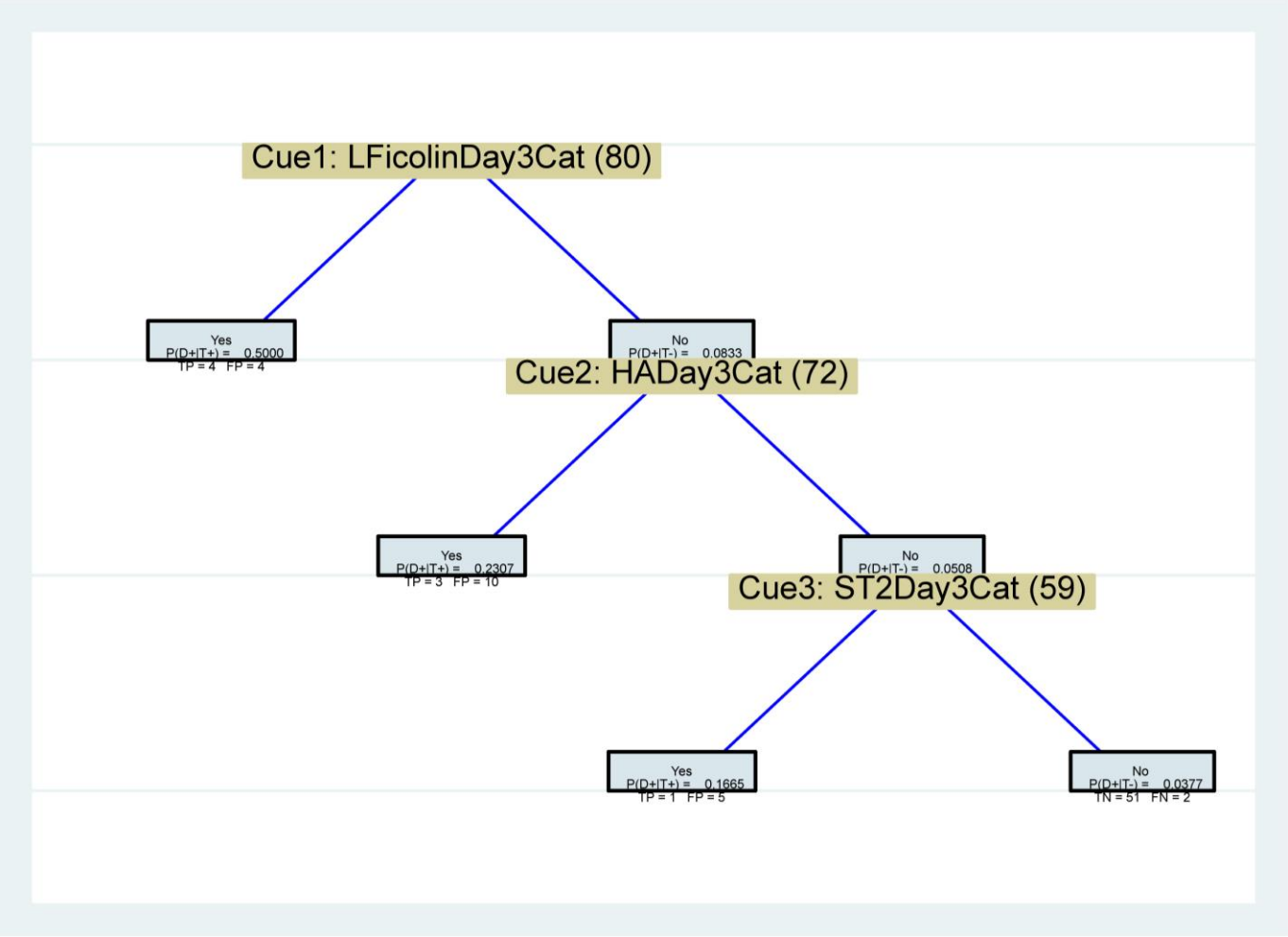
	Rx_FFT		
SOS2Cat	0	1	Total
0	**53**	**0**	**53**
1	**0**	**27**	**27**
Total	**53**	**27**	**80**

Supplemental Figure 1. How do FFTs enable the quantification and the assessment of the accuracy of clinical management strategies?



Every cue in a FFT can correctly or incorrectly classify signal and noise. The exit structure (and order of cues) of the FFTs determines its overall classification accuracy. FFTyy has a high hit rate (sensitivity) and the expense of large rate of false positives. FFTyy maximizes avoidance of false negatives. FFnn has low rate of false positives at the expense of a large rate of false negatives. FFTnn maximizes avoidance of false positives. FFTyn and FFTny have intermediate sensitivities, specificities and predicative classification accuracy.

Supplemental Figure 2. Categorical FFT analysis



Supplemental Figure 3. Discrimination and Calibration performance for FFT vs. SOS model (y/n)