

# Triad “parkinson-like” Risk — MVP

Model: RF-v1.0

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Cohort: Triad-positive cohort — research/triage use

## Patient input

- MSE ML: 1.75
- iHR V: 65.0
- MSE V: 1.5
- MSE AP: 1.3
- Weigh: 75.0
- Age: 70.0
- Sex (M=1, F=2): 1.0
- H-Y: 2.0
- Gait Speed: 1.1
- Duration (years): 5.0

## Risk & thresholds

Triad probability: 0.541

Band: Red

Thresholds → Green<0.26 | Yellow<0.40 | Orange<0.50 | Red $\geq$ 0.50

## Operating point & PPV/NPV (research screening)

Screen threshold: 0.40 Sensitivity: 0.68 Specificity: 0.64  
PPV: 0.56 | NPV: 0.75

Prevalence: 40.0%

## Top-5 contributions (SHAP)

- MSE ML: +0.202
- Gait Speed: -0.049
- MSE V: -0.043
- MSE AP: -0.035
- Weigh: +0.025

SHAP legend: positive value → increases probability; negative value → decreases probability (ceteris paribus).

## Surrogate rule (if matched)

Activated conditions:

- MSE AP  $\leq$  1.375
- MSE V > 1.331
- Gait Speed > 0.535

Observed prevalence (test): 0.43 (n=21)

## QC (minimal checks)

- Physically plausible ranges (MSE/iHR/speed/weight)
- Missing values absent / properly imputed
- Sex encoding coherent (M=1, F=2)
- H-Y in {1,2,3}