ARDS Precision Care Tool

Prediction Tool for Inflammatory Phenotypes & Clinical Trajectories

Based on Multicenter Derivation Study
Zhang R, Zhu X, et al. (2026)

Baseline Biomarkers (Day 1)

Enter the parsimonious biomarker panel to determine inflammatory phenotype.

Interleukin-6 (IL-6) [pg/mL]

200

TNFR1 [pg/mL]

20

Procalcitonin (PCT) [ng/mL]

5

Lactate [mmol/L]

3

Early Oxygenation (72-Hour)

Enter serial PaO_2/FiO_2 to assign clinical trajectory.

Day 1 PaO_2/FiO_2 [mmHg]

160

Day 2 PaO_2/FiO_2 [mmHg]

180

Day 3 PaO_2/FiO_2 [mmHg]

200

Make a Prediction

Probability of Hyperinflammatory Phenotype

61%

Result: Higher-inflammatory Phenotype

72-Hour Clinical Trajectory Assignment

Intermediate Resolver

Slower and more limited recovery with a plateau effect.

Dynamic Phenotype-plus-Trajectory Assessment

Intermediate Risk Profile ⚖️

The clinical trajectory is not showing rapid resolution. Mortality risk is moderate (~34%). Continued standard ARDS management and close monitoring for transition into refractory status is required.

* Note: The phenotype probability calculation is a simulated heuristic based on typical cutoff values for IL-6, TNFR1, PCT, and Lactate described in ARDS subphenotype literature. The trajectory assignment uses the exact Nearest Centroid algorithm derived from the Ruijin derivation cohort (Rapid: 238->320; Inter: 186->192; Refrac: 103->87).

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