SUPPLEMENTAL MATERIAL ONLINE CONTENTS

for Risk Prediction Score for Clinical Outcome in Atrial Fibrillation and Stable Coronary Artery Disease

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Supplementary Table 1. Variables available for the risk prediction model in AFIRE study

Variable Domain	Individual Variables
Demographic	**Age, sex, smoking history, alcohol drinking history**
Physiological Findings	Height, body weight, **body mass index, systolic blood pressure, diastolic blood pressure**
Clinical / Medical History	**Type of atrial fibrillation, allocated arm, History of hypertension, diabetes mellitus, dyslipidaemia, angina pectoris, heart failure, liver dysfunction, renal dysfunction, haemorrhagic diathesis, stroke, transient ischemic attack, myocardial infarction, aortic aneurysm, systemic embolism, deep venous thrombosis, pulmonary embolism, peripheral artery disease, other ischemic disorder, bleeding complication, percutaneous coronary intervention (PCI), coronary artery bypass grafting (CABG), and interventions other than PCI or CABG**

Laboratory	**Creatinine clearance**
Baseline Medication	**Rivaroxaban, warfarin, dabigatran, apixaban, edoxaban, other anti-coagulants, aspirin, clopidogrel, prasugrel, ticlopidine, ticagrelor, P2Y12 inhibitor, other antiplatelet drugs, dual antiplatelet therapy, dose of rivaroxaban, proton pump inhibitor, non-steroidal anti-inflammatory drugs**
Conventional Risk Score	$CHADS_2$, CHA_2DS_2-VASc, and HAS-BLED
Coronary Angiographic Findings	**Bare metal stent, drug eluting stent, type of stent such as Cypher, TAXUS, Endeavor, Xience, Promus, Nobori, or other, culprit lesion of PCI according to AHA classification,** date of PCI

Bolded candidate variables had <10% missing data and were used to develop risk prediction models.

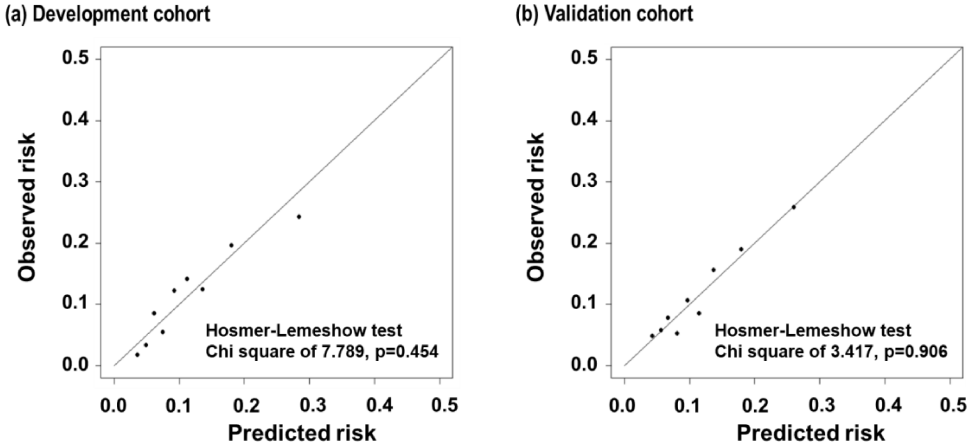
Supplementary Table 2. Discrimination and calibration of the random survival forest and Cox proportional hazard models

Variables	C-index	Brier score
Random survival forest model		
Development cohort	0.706	0.081
Validation cohort	0.667	0.080
Cox proportional hazard model		
Development cohort	0.680	0.079
Validation cohort	0.650	0.081

Supplementary Table 3. Discrimination and improvement indices for the new risk score compared to conventional risk scores

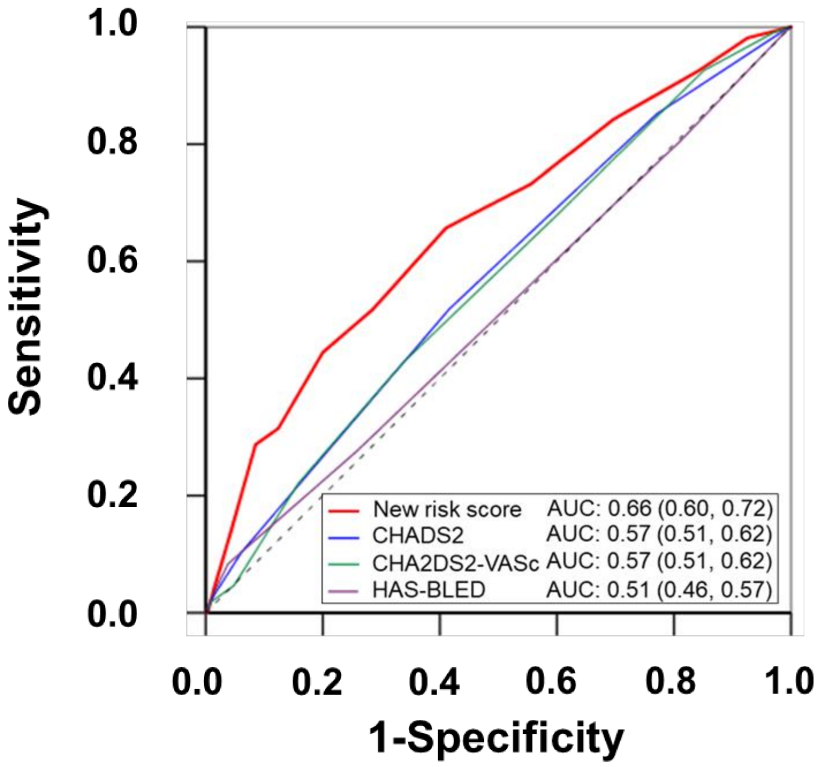
	Category free-NRI (95% CI), p-value	Categorical NRI (95% CI), p-value	IDI (95% CI), p-value
$CHADS_2$	0.429 (0.232, 0.625), p<0.001	0.130 (0.032, 0.228), p=0.010	0.029 (0.018,0.041), p<0.001
CHA_2DS_2-VASc	0.491 (0.297, 0.686), p<0.001	0.143 (0.043, 0.242), p=0.005	0.031 (0.019, 0.042), p<0.001
HAS-BLED	0.509 (0.318, 0.701), p<0.001	0.215 (0.088, 0.341), p<0.001	0.035 (0.021, 0.048), p<0.001

AUC, area under the curve; CI, confidence interval; NRI, net reclassification improvement; IDI, integrated discrimination improvement.



Supplementary Figure 1. Calibration plot of the new risk score for net adverse clinical events.

Calibration plot of the new machine-learning-based risk score using variables such as age, body mass index, sex, systolic blood pressure, alcohol consumption, creatinine clearance, heart failure, diabetes mellitus, antithrombotic regimen, and type of atrial fibrillation in the development (a) and validation (b) cohorts.



Supplementary Figure 2. Receiver operating characteristic curve for the new and conventional risk scores

Area under the receiver operating characteristic curve of the new machine-learning-based risk score and conventional risk scores such as the $CHADS_2$, CHA_2DS_2-VASc, and HAS-BLED scores.