

## Supplemental Digital Content 5

### New RA equation where the PA index was substituted with fulfillment or not of the ACSM/AHA 2007 recommendations for PA

Sometimes information about intensity, frequency, and duration of physical activity (PA) is lacking and the physical activity summary index (PA index) cannot be calculated. Instead the following equation may be used if information regarding fulfillment or not of the American College of Sports Medicine (ACSM) and the American Heart Association's (AHA) 2007 recommendations for PA (1) is available.

New RA equation based on ACSM/AHA 2007 recommendations for PA (female=0, male=1; never smoked=0, ever smoked=1; not fulfilled ACSM/AHA 2007 recommendations for PA =0, fulfilled ACSM/AHA 2007 recommendations for PA =1) ( $R^2=0.79$ , RMSE=4.66):

$$\text{eCRF} = 85.982 + (\text{sex} \times 25.844) - (\text{age} \times 0.406) - (\text{age} \times \text{sex interaction} \times 0.269) - (\text{BMI} \times 0.644) - (\text{RHR} \times 0.094) - (\text{smoking} \times 2.522) + (\text{PA recommendations fulfilled} \times 2.984) - (\text{SBP} \times 0.071).$$

**Table:** New RA equation based on fulfillment or not of ACSM/AHA 2007 recommendations for PA

New RA equation				
( $R^2=0.79$ , RMSE=4.66)	Coefficient	SE	P	Confidence interval
Sex (female=0, male=1)	25.844	6.682	<0.001	12.557 - 39.131
Age (years)	-0.406	0.049	<0.001	-0.504 - -0.308

Age × sex	-0.269	0.112	0.019	-0.492 - -0.046
Body mass index (m/kg <sup>2</sup> )	-0.644	0.140	<0.001	-0.921 - -0.366
Resting heart rate <sup>1</sup> (beats per minute)	-0.094	0.053	0.078	-0.198 - 0.011
Smoking (never=0, ever=1)	-2.522	1.066	0.020	-4.641 - -0.403
ACSM/AHA 2007 recommendations for PA (not fulfilled=0, fulfilled=1)	2.984	1.127	0.010	0.744 - 5.224
Systolic blood pressure (mm Hg)	-0.071	0.032	0.029	-0.134 - -0.008
Constant	85.982	5.864	<0.001	74.321 - 97.643

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<sup>1</sup>Resting heart rate had a *P* value = 0.078 in this RA equation but was kept in the equation to avoid deterioration of overall model fit.

Abbreviations: ACSM, American College of Sports Medicine; AHA, American Heart Association; PA, physical activity; RA, rheumatoid arthritis.

#### Reference:

1. Haskell WL, Lee IM, Pate RR, et al. Physical activity and public health: updated recommendation for adults from the American College of Sports Medicine and the American Heart Association. *Circulation*. 2007;116(9):1081-93.