

## Publication

## Early detection of subjects at risk for vascular remodelling : results from the Swiss population-based study SAPALDIA

**JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 2743088**Author(s)** Dratva, Julia; Caviezel, Seraina; Schaffner, Emmanuel; Zemp, Elisabeth; de Groot, Eric; Schmidt-Trucksäss, Arno; Bettschart, Robert; Saleh, Lanja; Turk, Alexander; Gaspoz, Jean-Michel; Carballo, David; Kuenzli, Nino; Probst-Hensch, Nicole**Author(s) at UniBasel** [Probst Hensch, Nicole](#) ; [Künzli, Nino](#) ; [Dratva, Julia](#) ; [Schaffner, Emmanuel](#) ; [Zemp Stutz, Elisabeth](#) ;**Year** 2014**Title** Early detection of subjects at risk for vascular remodelling : results from the Swiss population-based study SAPALDIA**Journal** Swiss Medical Weekly**Volume** 144**Pages / Article-Number** w14052**Keywords** blood pressure, cardiovascular disease, cardiovascular risk scores, carotid intima media thickness, epidemiology, prevention

As the burden of cardiovascular disease (CVD) increases globally, its prevention and risk assessment becomes ever more important. We thus investigated the longitudinal association of the cardiovascular risk scores in the population-based cohort SAPALDIA with carotid intima media thickening (CIMT), an indicator of sub-clinical disease, and CVD incidence.; In 2,832 SAPALDIA participants, the Swiss and ESC heart risk score (AGLA, SCORE) were calculated based on 2001 data and CIMT was measured in 2010/11. We ran multi-level linear regression analyses between scores and CIMT, stratified for CVD status and gender, and logistic analyses for doctor-diagnosed CVD incidence. Path analyses investigated direct and indirect effects on CIMT.; AGLA and SCORE were positively associated with increasing CIMT in both healthy and CVD diagnosed subjects and men and women. Participants in highest risk categories showed a significant CIMT difference of <0.20 mm compared to the reference risk category (>1%), even larger in CVD healthy subjects and men. With increasing risk the odds of CVD incidence increased (Ref. >1%; 10 yr. risk AGLA <10% OR 2.1, <20% OR 3.7). Path analyses yield risk factors' direct and indirect effects through blood pressure.; The positive longitudinal association between risk estimations and CIMT confirms the use of risk scores in assessing individuals and populations at risk. Systolic blood pressure appears to be a main pathological mechanism, underscoring the importance of optimal blood pressure control and the importance of prevention strategies of risk factors, indirectly affecting CIMT through the haemodynamic pathway.

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