# ARIC Hemostasis Study- I. Development of a Blood Collection and Processing System Suitable for Multicenter Hemostatic Studies

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In order to carry out a multicenter study aimed at understanding the association of hemostatic factors with atherosclerotic vascular disorders for the Atherosclerosis Risk in Community study, we compared a blood collection and Processing system developed in our laboratory with the state-of-the-art-procedures. The salient features of our system included the use of a new phlebotomy set for venipuncture, the use of Millipore filters for removing platelet residues in the plasma and the use of a mixture of anticoagulants and antiplatelet agents for inhibiting the in vitro activation of platelets, coagulation and fibrinolytic system. The results derived from systematic evaluations indicate that this newly developed system yields the lowest values of plasma ßTG, PF 4 and FPA when compared with the reported values. The technique also gave reliable values of representative hemostatic measurements such as fibrinogen, factor VII, factor VIII, von Willebrand factor, antithrombin-III, protein C, tissue-type plasminogen activator, and serum thromboxane $B_2$. Further experiments revealed that the samples withstood temporary storage at -70°C and overnight "shipping" manipulations without significant changes in the hemostatic values. We conclude that the described blood collection and processing system may be a valuable asset for conducting multicenter cooperative clinical trials and epidemiologic studies involving blood collection by multiple field centers or clinics.

**Abstract Related to MS #052**