



Kalevi Pyörälä

* 24.4.1930 † 13.2.2023

Professor Kalevi Pyörälä died on 13 February 2023. He was 92 years old, born in Saarijärvi on 24 April 1930. His father, Otto, was a farmer and his mother, Aina (née Ståhlberg), a teacher. Pyörälä graduated from the Jyväskylä Joint Lyceum in 1948. He graduated as a Licentiate of Medicine in 1954 and as a Doctor of Medicine and Surgery (PhD) in 1965 from the University of Helsinki. He was a specialist in both Internal Medicine and Cardiology. He worked as an Assistant Professor of Internal Medicine at the University of Helsinki 1969–75 and as Research Professor at the Academy of Finland 1973–75. In 1976, he became Professor of Internal Medicine at the University of Kuopio and Chief Physician of the Department of Internal Medicine at the Kuopio University Hospital. He retired in 1993.

Pyörälä built a successful Department of Internal Medicine at the University of Kuopio and supervised more than 30 PhD Fellows with their doctoral theses in Medicine as well as dozens of Internal Medicine specialists. Pyörälä's research focused on the epidemiology of cardiovascular diseases and type 2 diabetes. He was the principal investigator of the Helsinki Policemen Study, which he initiated in the 1960s.

Under Pyörälä's leadership, the University of Kuopio developed into an internationally renowned research centre for type 2 diabetes. One of the key findings of the Helsinki Policemen Study was that the risk of coronary artery disease was associated with increased serum insulin levels at fasting and 2 hours after a glucose challenge. Elevated insulin levels reflected peripheral insulin resistance. The discovery was of immense interest to researchers around the world and led to the broader concept of the metabolic syndrome created in the 1980s, which, in addition to insulin resistance, was associated with central obesity, disorders of blood lipid metabolism such as low HDL cholesterol, and high blood pressure.

Pyörälä was a leading figure behind the Finnish Myocardial Infarction Register which was part of the multinational WHO MONICA project. In addition to the Kuopio University Hospital area, similar registers were maintained in three other areas. The Finnish register continued even after the 10-year period of the WHO MONICA project was over.

After his retirement, Pyörälä continued his scientific and international career as an expert in heart disease prevention. His last international scientific article was pub-

lished in 2013, but his Policemen Study data are still used for international collaborative publications. His two last publications deal with the residual risk of dying from coronary artery disease in patients with coronary artery disease and the role of metabolic risk factors in the onset of heart disease and diabetes. Pyörälä's publishing activities are international and well-recognized. This is in line with his international role and worldwide networking in the prevention of coronary artery disease. He published more than 430 scientific articles and had an h-index of 104 (Scopus 2023).

Pyörälä was also an important figure within the medical profession in Finland in several ways. Early on, he realized the importance of the prevention of cardiovascular diseases. In the 1970s, the importance of prevention was not self-evident even among the medical profession. He worked for a long time as an expert for the Finnish Heart Association and supported the North Karelia Project when it was launched in 1972. Pyörälä was a key figure when the book *Guidelines for the Prevention of Coronary Artery Disease in Finland* was published in 1986. This book outlined the main lines of action for the prevention of the disease in our country. The “dietary fat debate” still raised strong emotions and caused debate in Finland around that time.

Pyörälä held numerous positions in scientific and other organisations, both nationally and internationally, such as President of the Finnish Cardiac Society and the Finnish Association of Internal Medicine and Vice-President of the European Society of Cardiology. In the 1980s and 1990s, Pyörälä worked as a cardiovascular expert for the WHO. In an obituary in the *European Heart Journal* in 2023, he was described as one of the European

giants in the epidemiology and prevention of cardiovascular diseases. In 1976, he was active in setting up the Working Group on Epidemiology and Prevention of Cardiovascular Disease within the European Society of Cardiology, and he also served as its Secretary from 1976 to 1979. The group held annual meetings from 1978 to 2004, after which its activities were reorganised. Today, the new organisation, the European Association of Preventive Cardiology is an important part of the large European Society of Cardiology. Pyörälä was also one of the authors in the WHO Expert Committee when the Guidelines for the Prevention of Coronary Heart Disease were created in 1982 (WHO Technical Report Series 678: Prevention of Coronary Heart Disease). He was also active in the work of the European Diabetes Epidemiology Group and, in the 1980s, drafted the first by-laws for this informal scientific organisation which would later become part of the European Association for the Study of Diabetes.

Pyörälä was a member of the Finnish Academy of Science and Letters since 1982 and a member of the Royal College of Physicians, London, since 1990. He received the Pohjola Prize in 1993, the Yrjö Jahns-son Foundation Prize in 1994, and both the Paavo Nurmi Foundation Award and the European Society of Cardiology Gold Medal in 2000. He was awarded the National Heart Health Promotion Award in 2007. He was an honorary member of the Finnish Heart Association.

Pyörälä was musically talented. He played his favourite instrument, the cello, in the Student Union and later in Kuopio in the “Pacemaker” orchestra. He practised choral singing in the Kuopio University Chamber Choir and arranged vocal ensembles. He was a regular attendee at symphony

concerts, the Savonlinna Opera Festival, and the Kuhmo Chamber Music Festival. He enjoyed watching the matches of ice hockey team KalPa in Kuopio. He had a summer residence in the municipality of Hartola, but the Lannevesi region of Saarijärvi where he had spent his youth remained his soulscape.

In terms of physical activity, walking was Kalevi's favourite form of exercise.

Family was important to Kalevi. His marriage to Ritva lasted almost 65 years. In addition to Ritva, Kalevi will be missed by daughters Sari, Marja, Eeva, and Elina and their families.

*Matti Uusitupa, Jaakko Tuomilehto,
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