9th September 2025

EKHA Cardiocheck suggestion:

Early detection and treatment of hypertension, diabetes and Chronic Kidney Disease (CKD) are essential to reduce morbidity and mortality from cardiovascular disease (CVD) [1]. **Systematic testing of urinary albumin** (albuminuria), a simple, non-invasive, cost-effective, and evidence-based method to detect major cardiovascular risk, is an **effective** tool to facilitate this goal - values over 30 mg/g urinary creatinine signal **early microvascular and/or kidney damage**.

In a Dutch general population study (>45y), systematic testing identified albuminuria in 4% of participants, in 64% of whom one or more CVD or CKD risk factors were newly detected[2,3]. **Cost-effectiveness** analyses **support systematic albuminuria screening from the age of 45**, if combined with appropriate treatment of the detected conditions[4]. Although recommended by international CVD, diabetes, and CKD guidelines[5-7], albuminuria testing is still grossly underused in Europe[8].

EKHA strongly advocates for systematic albuminuria screening in adults above 45 and in younger individuals with risk factors (diabetes, hypertension, cardiovascular disease, obesity, smoking, family history or personal history of kidney or vascular damage, preeclampsia, low

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birth weight). This would **reduce** individual and societal **costs**, **suffering**, and social and regional health **inequities** linked with CVD and CKD[9].

Albuminuria is easy to perform on a spot urine test and is more sensitive than the traditional marker of kidney dysfunction, serum creatinine, which increases only later in disease[10]. Given that CKD itself is as strong a cardiovascular risk factor as diabetes however[11] and is associated with a marked increase in risk of poor outcomes from CVD (Figure 1), EKHA also advocates for inclusion of assessment of kidney function (estimated glomerular filtration rate, eGFR) in those at risk.

As outlined in the European Renal Association's "ABCDE: **A**lbuminuria, **B**lood pressure, **C**holesterol, **D**iabetes, **e**GFR (kidney function measure)" initiative, this simple approach, targeting the **general public** and **frontline health professionals,** can detect key cardiovascular risk factors[12,13].

Parameter	Cardiovascular	Diabetes	Kidney	Metabolic/Overweight/obesity
Albuminuria (A)	X (risk)	X (complication)	X (diagnosis, severity)	X (risk, complication)
Blood pressure (B)	X (risk)	X (risk)	X (risk, complication)	X (risk, complication)
Cholesterol (C)	X (risk)	X (risk)	X (complication)	X (risk, complication)
Diabetes (D, Glucose)	X (risk)	X	X (risk)	X (risk, complication)

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		(diagnosis, severity)		
eGFR (E), Creatinine)	X (risk)	X (complication)	X (diagnosis, severity)	X (risk, complication)

Figure 1. Relative risk of all-cause mortality and CVD outcomes in men and women under age 65 years stratified by severity of albuminuria (ACR) and kidney function (eGFR) Figure adapted from [14]

Males

Age <65	ACR, mg/g				ACR, mg/g				ACR, mg/g			
eGFRcr-cys	<10	10–29	30–299	300+	<10	10–29	30–299	300+	<10	10–29	30–299	300+
	All-cause mortality				Myocardial infarction				Heart failure			
105+	0.99	1.2	1.5	2.4	0.93	1.0	1.1	2.6	0.86	1.1	1.7	3.4
90–104	ref	1.3	1.5	2.5	ref	1.2	1.3	1.9	ref	1.3	1.5	3.0
60–89	1.2	1.6	2.0	2.9	1.3	1.4	1.6	2.1	1.2	1.7	2.1	3.6
45–59	2.1	2.7	2.9	4.5	1.8	2.6	3.1	3.5	1.7	3.3	3.4	5.3
30–44	2.7	3.8	4.2	5.6	1.9	2.3	3.0	3.9	3.5	4.3	6.8	5.7
<30	5.2	4.0	7.1	8.6	4.1	3.6	4.7	5.8	7.5	6.3	9.7	8.9
	Cardiovascular mortality				Stroke				Atrial fibrillation			
105+	0.95	1.4	1.7	4	0.96	1.2	1.6	2.7	0.93	1.0	1.3	1.9
90–104	ref	1.6	1.8	3.5	ref	1.2	1.5	2.2	ref	1.2	1.4	2.3
60–89	1.3	1.7	2.3	3.9	1.2	1.4	1.7	2.6	1.1	1.3	1.5	1.8
45–59	2.5	4.0	4.6	6.0	1.9	2.0	2.5	3.8	1.5	2.0	2.1	2.6
30–44	3.1	6.6	5.3	7.1	2.6	3.7	3.5	3.5	1.8	2.4	3.0	2.8
<30	6.0	5.5	9.4	12	2.6	2.9	5.1	5.1	3.7	2.9	4.3	5.4

Females

Age 65+	ACR, mg/g				ACR, mg/g				ACR, mg/g			
eGFRcr-cys	<10	10–29	30–299	300+	<10	10–29	30–299	300+	<10	10–29	30–299	300+
	All-cause mortality				Myocardial infarction				Heart failure			
105+	1.2	1.4	1.9	3.5	0.97	1.4	2.0	1.9	0.99	1.5	1.7	7.0
90–104	ref	1.2	1.4	2.0	ref	1.2	1.1	1.9	ref	1.3	1.5	2.2
60–89	1.2	1.5	1.8	2.3	1.1	1.4	1.5	1.9	1.2	1.5	2.0	3.2
45–59	1.6	2.0	2.4	2.9	1.6	1.9	2.3	3.4	1.6	2.0	2.9	4.1
30–44	2.0	2.4	3.2	4.1	2.1	2.6	3.1	3.8	2.3	2.9	3.5	6.1
<30	3.4	4.1	5.1	6.5	4.9	3.0	5.1	5.0	4.4	4.1	5.5	7.2
	Cardiovascular mortality				Stroke				Atrial fibrillation			
105+	1.1	1.5	2.0	12	1.2	1.3	1.5	3.3	0.95	1.1	1.0	3.7
90–104	ref	1.4	1.4	3.4	ref	1.3	1.3	2.8	ref	1.2	1.3	2.4
60–89	1.2	1.7	2.2	3.1	1.1	1.4	1.8	2.5	1.1	1.2	1.5	2.0
45–59	1.7	2.4	3.0	4.3	1.5	1.7	2.0	2.3	1.2	1.4	1.7	1.9
30–44	2.4	3.1	4.5	5.8	1.5	2.0	2.1	2.3	1.5	1.8	2.0	2.2
<30	5.7	5.2	5.1	7.8	1.7	2.0	2.4	4.8	1.8	1.8	2.2	3.2

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European Kidney Health Alliance (EKHA) is registered in the EU Transparency Register:582565214754-24

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