

HemoCue Albumin 201 Analyzer: The Only CLIA-Waived Quantitative Test for Point-of-Care Evaluation of Microalbuminuria

Accurate: quantitative lab-quality testing with in-office convenience^{21,22}

Fast: from sample to results in about 90 seconds²³

Easy: no lab training required²³



MICROALBUMINURIA: Important Risk Marker for Renal/Cardiovascular Disease



¹ American Heart Association. Primary prevention in the adult. Available at: <http://www.americanheart.org/presenter.jhtml?identifier=4704>. Accessed 8/21/2008.

² American Heart Association. Prevention, secondary. Available at: <http://www.americanheart.org/presenter.jhtml?identifier=4723>. Accessed 8/21/2008.

³ Buse JB, Ginsberg HB, Bakris GL, et al. Primary prevention of cardiovascular diseases in people with diabetes mellitus: a scientific statement from the American Heart Association and the American Diabetes Association. *Circulation*. 2007;115:114-126.

⁴ Remuzzi G, Weening JJ. Albuminuria as early test for vascular disease. *Lancet*. 2005;(365):565-566.

⁵ Vora JP, Ibrahim HAA, Bakris GL. Responding to the challenge of diabetic nephropathy: the historic evolution of detection, prevention, and management. *J Hum Hypertens*. 2000;14:667-685.

⁶ Gross JL, De Azevedo MJ, Silveiro SP, Canani LH, Caramori ML, Zelmanovitz T. Diabetic Nephropathy: Diagnosis, Prevention, and Treatment. *Diabetes Care*. 2005;28:176-188.

⁷ Bakris GL. *Microalbuminuria. Marker of kidney and cardiovascular disease*. London, UK: Current Medical Group Ltd; 2007.

⁸ De Jong P, Curhan GC. Screening, monitoring, and treatment of albuminuria: public health perspectives. *J Am Soc Nephrol*. 2006;17:2120-2126.

⁹ de Zeeuw D, Parving H-H, Henning RH. Microalbuminuria as an Early Marker for Cardiovascular Disease. *J Am Soc Nephrol*. 2006;17:2100-2105.

¹⁰ Parving H-H, Lewis JB, Ravid M, Remuzzi G, Hunsicker LG. Prevalence and risk factors for microalbuminuria in a referred cohort of type II diabetic patients: A global perspective. *Kidney Int*. 2006;69:2057-2063.

¹¹ Tapp RJ, Shaw JE, Zimmet PZ, et al. Albuminuria is evident in the early stages of diabetes onset: Results from the Australian Diabetes, Obesity, and Lifestyle Study (Aus-Diab). *Am J Kidney Dis*. 2004;44:792-798.

¹² Atkins RC. The epidemiology of chronic kidney disease. *Kidney Int Suppl*. 2005;67:S14-S18.

¹³ Hillege HL, Janssen WM, Bak AA, et al; for the PREVEND Study Group. Microalbuminuria is common, also in a nondiabetic, nonhypertensive population, and an independent indicator of cardiovascular risk factors and cardiovascular morbidity. *J Intern Med*. 2001;249:519-526.

¹⁴ Wachtell K, Palmieri V, Olsen MH, et al. Urine albumin/creatinine ratio and echocardiographic left ventricular structure and function in hypertensive patients with electrocardiographic left ventricular hypertrophy: The LIFE study. Losartan Intervention for Endpoint Reduction. *Am Heart J*. 2002;43:319-326.

¹⁵ Coresh J, Selvin E, Stevens LA, et al. Prevalence of chronic kidney disease in the United States. *JAMA*. 2007;298(17):2038-2047.

¹⁶ de Zeeuw D. Albuminuria, not only a cardiovascular/renal risk marker, but also a target for treatment? *Kidney International*. 2004;66(Suppl 92):S2-S6.

¹⁷ American Diabetes Association. Standards of Medical Care in Diabetes—2008. *Diabetes Care*. 2008;31 (Suppl 1):S12-S54.

¹⁸ National Kidney Foundation. NKF KDOQI Guidelines 2007. Available at: http://www.kidney.org/Professionals/kdoqi/guideline_diabetes/guide1.htm. Accessed 8/11/2008.

¹⁹ Eknoyan G, Hostetter T, Bakris GL, et al. Proteinuria and other markers of chronic kidney disease: a position statement of the National Kidney Foundation (NKF) and the National Institute of Diabetes Digestive and Kidney Disease (NIDDK). <http://www.kidney.org/Professionals/kdoqi/pdf/prot.pdf>. Accessed 8/12/2008.

²⁰ Chobanian AV, Bakris, GL, Black HR, et al; and the National High Blood Pressure Education Program Coordinating Committee. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. The JNC 7 Report. *JAMA*. 2003;289:2560-2572.

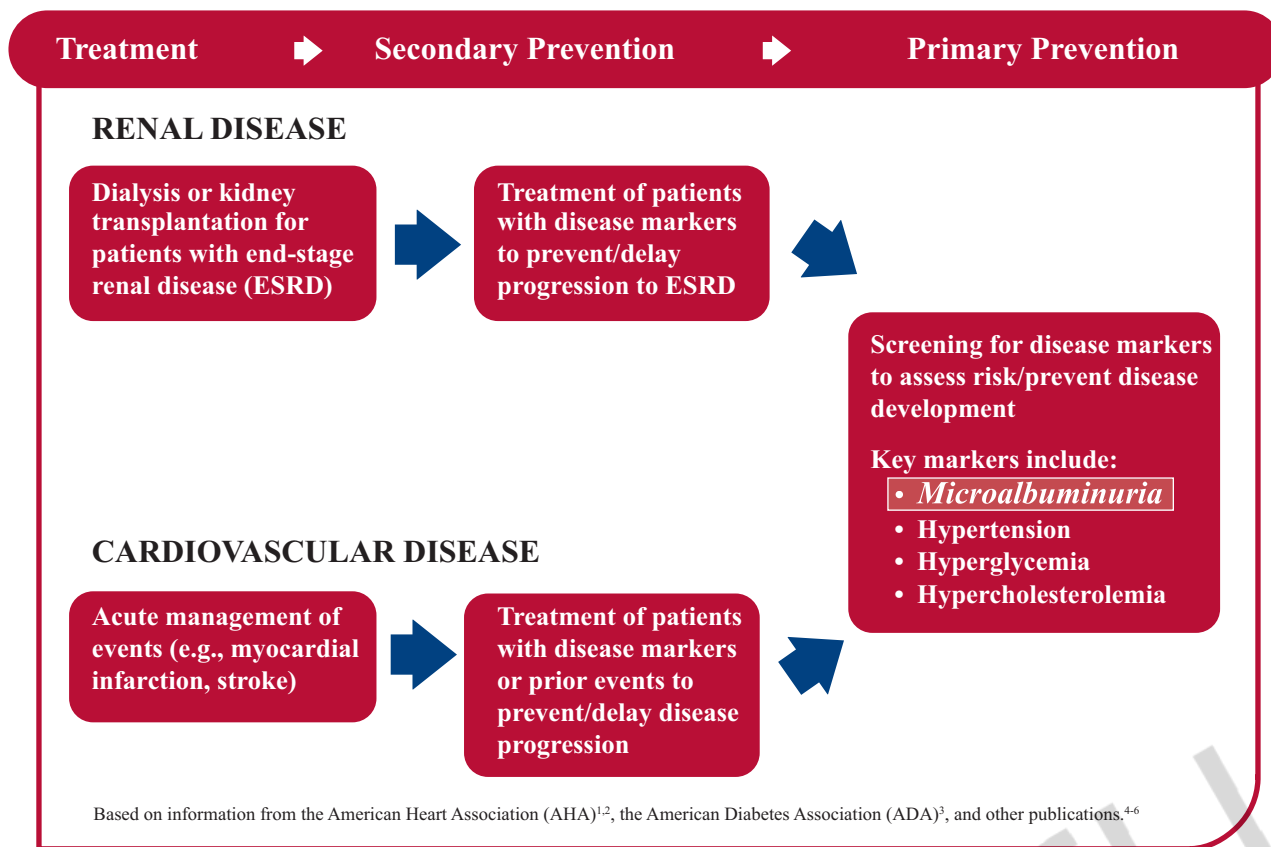
²¹ Florvall G, Basu S, Helmersson J, Larsson A. HemoCue Urine Albumin Point-Of-Care Test Shows Strong Agreement With the Results Obtained With a Large Nephelometer. *Diabetes Care*. 2006;29:422-423.

²² Lambers Heerspink HJ, Witte EC, Bakker SJL, de Jong PE, de Zeeuw D, Gansevoort RT. Screening and monitoring for albuminuria: the performance of the HemoCue point-of-care system. *Kidney International*. 2008;74:377-383.

²³ Data on file, HemoCue, Inc.

Management of Renal and Cardiovascular Disease (CVD) Has Changed Dramatically over the Past 2 Decades

Shift from Treatment of Overt Disease to Earlier Detection of Disease Markers as Basis for Intervention¹⁻⁶



“Early identification of microalbuminuria is key to identifying and treating risk factors for CVD and predictors of renal disease in patients with diabetes or hypertension, as well as the general population.”

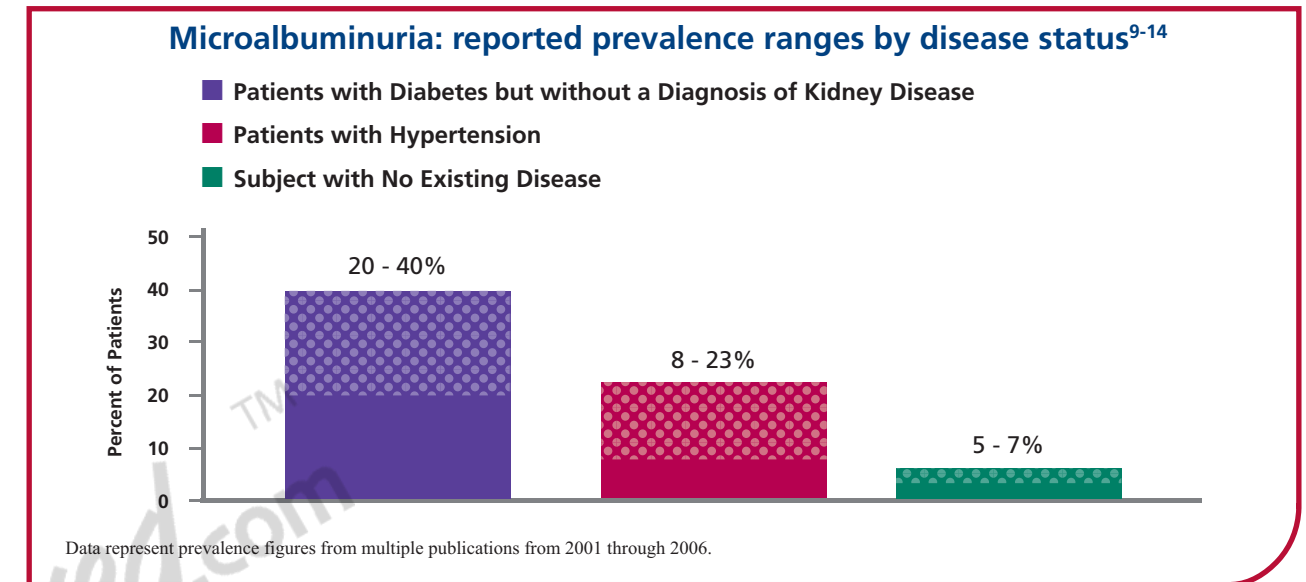
Definition of microalbuminuria and other urinary albumin levels⁸

	Spot Urine Albumin (mg/L)	Overnight Urine Albumin (µg/mL)	24-Hour Urine Albumin (mg/24 hr)
Normal	<10	<10	<15
High normal	10 to <20	10 to <20	15 to <30
Microalbuminuria	20 to <200	20 to <200	30 to <300
Macroalbuminuria	>200	>200	>300

Adapted, with permission from De Jong P, Curhan GC. *J Am Soc Nephrol.* 2006;17:2120-2126.

Microalbuminuria: Important Marker of Cardiovascular Disease Risk

- Common finding, especially among patients with diabetes and/or hypertension⁹⁻¹⁴



- Prevalence of microalbuminuria has increased over the past 20 years in the US along with increases in diagnosed hypertension, diabetes, and obesity.¹⁵
- Known to be an early marker for predicting cardiovascular and renal risk in patients with diabetes and/or hypertension¹⁶
- Microalbuminuria is also an independent risk factor for cardiovascular disease among patients without diabetes or hypertension.¹³

Microalbuminuria Screening: An Important Component of Care for Patients at Risk of Diabetic Nephropathy and CVD

Annual screening of high-risk patients

- Recommended by American Diabetes Association (ADA), National Kidney Foundation (NKF), and Joint National Committee for the Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7)¹⁷⁻²⁰
- Can be performed during routine examination along with routine screening for elevated blood pressure and cholesterol¹⁹

“Screening patients with diabetes, hypertension, and other CVD risk factors for microalbuminuria is easy and inexpensive, but often overlooked in clinical practice.”