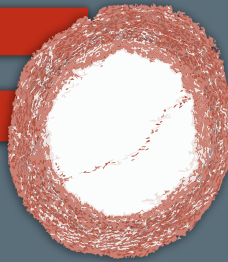
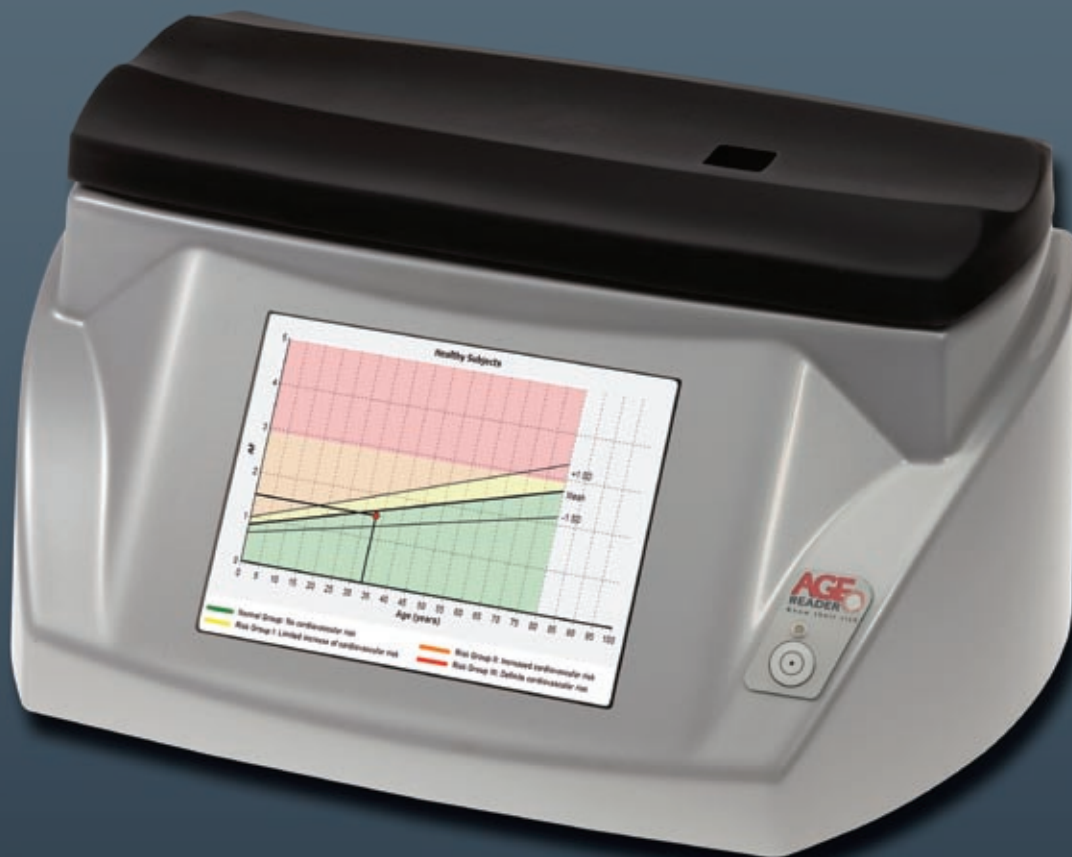


AGE READER

Know their risk.



Non-invasive assessment of cardiovascular risk



Convenient, easy and **validated**

AGE Reader

The AGE Reader provides an immediate risk prediction for major chronic diseases, such as diabetes, cardiovascular disease and renal failure. The AGE Reader yields a real time and non-invasive assessment of cardiovascular risk. The method is convenient, easy to use and validated.

The AGE Reader measures tissue accumulation of Advanced Glycation Endproducts (AGEs) by means of fluorescence techniques (skin autofluorescence (skin AF)). AGEs play a key role in the pathogenesis of many age-related diseases, such as diabetes, cardiovascular disease and renal failure.

In less than a minute

Non-invasive, real time, convenient, easy to use, proven

Predict the risk of:

Complications of diabetes, cardiovascular disease, renal failure, neurological disorders and more...

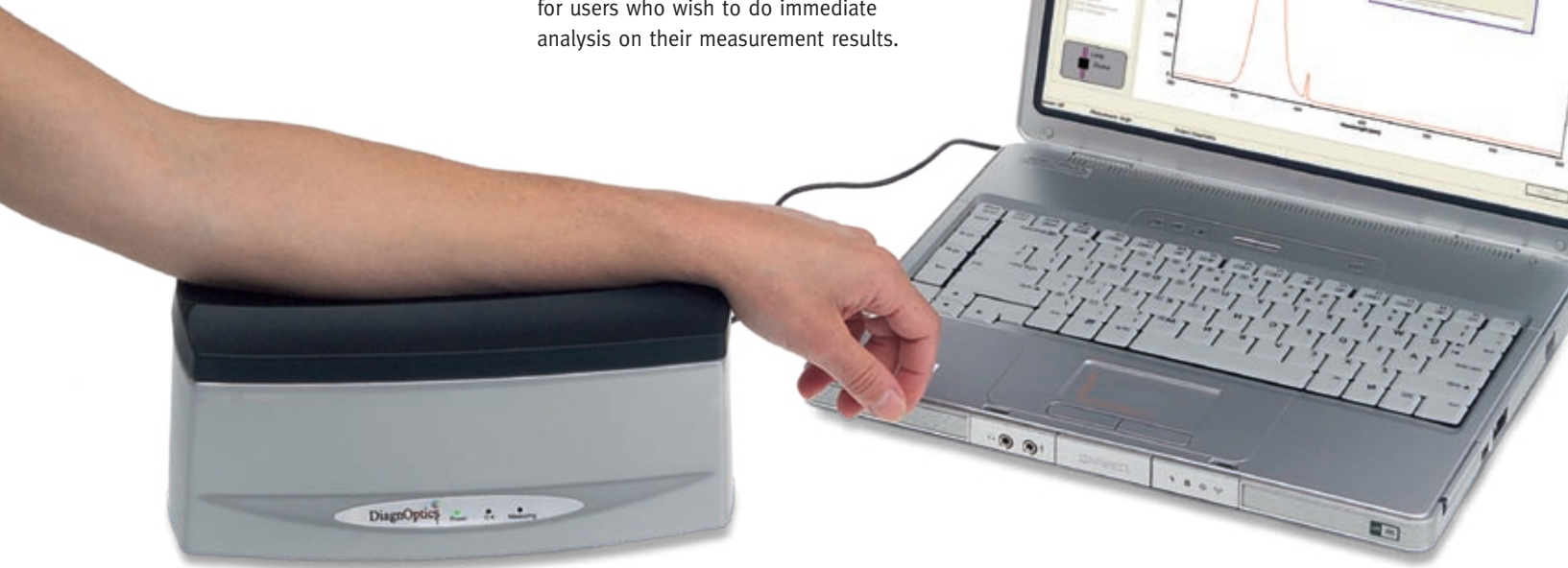


AGE READER **SU**

Know their risk

AGE Reader SU

The AGE Reader SU is the classic model. The measurement device is connected to a pc or laptop and is controlled by the AGE Reader software. It allows users to process and analyze the data immediately on the external computer. A printout of the measurement report can be made. It is particularly suitable for users who wish to do immediate analysis on their measurement results.



Validated
Supported by over 10 years of clinical data

Easy and non-invasive

- Results within a minute
- Safe and convenient
- Minimum training requirements for operator

Results within a minute

AGE READER **CU**

Know their risk

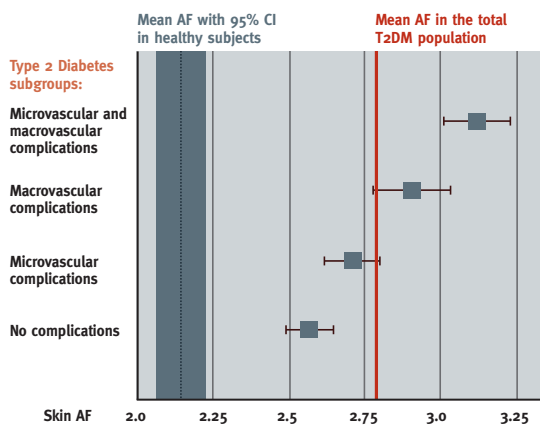
AGE Reader CU

The AGE Reader CU is the latest model in the AGE Reader series. This compact device features a built-in mini computer and battery and is operated through a touch screen panel. The AGE Reader CU is mobile and requires no setup. After the measurement, a direct printout of the report can be made by using a pre-selected printer. Optional pc software to perform further analysis on the data is available (AGE Reader CU Dataview).



A cardiovascular risk assessment tool

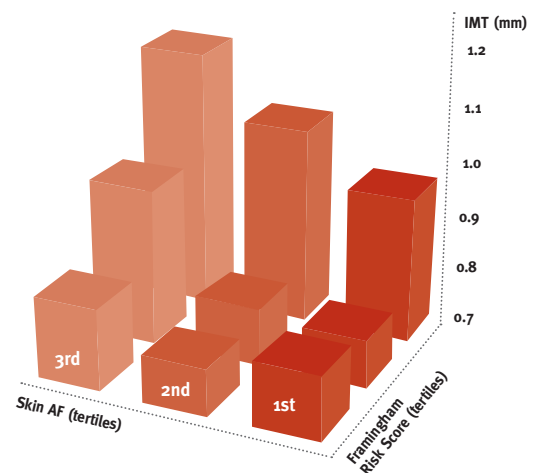
Type 2 Diabetes population (n=987)



AGE Reader in diabetes

- Best single risk predictor of cardiovascular risk in combination with UKPDS risk score, except age¹.
- Independent predictor of microvascular complications in type 2 diabetes².
- Reflects vascular damage in the diabetes outpatient clinic and identifies diabetic patients who are at risk of developing complications³.

Persons with moderate cardiovascular risk



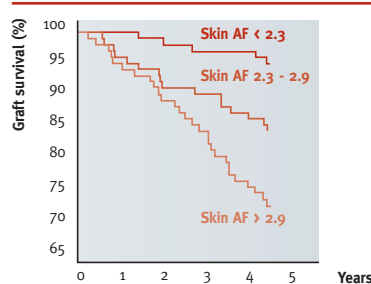
AGE Reader in comparison with conventional risk engines (SCORE, Framingham, UKPDS and IMT)

- A viable and economical assessment tool that adds value to conventional risk engines¹.
- Related to early (IMT) and clinical atherosclerosis (cardiovascular morbidity and mortality) independent of conventional risk factors and engines (SCORE, Framingham and UKPDS)^{1,4}.
- AGEs reflect pathogenetic pathways not covered by conventional risk factors⁵.

AGE Reader in renal disease

- An independent predictor of cardiovascular disease associated mortality in hemodialysis patients⁶.
- Strong and independent predictor of mortality and chronic graft loss in renal transplant recipients⁷.
- AGEs correlated to arterial elasticity and diastolic function in both hemodialysis and peritoneal dialysis patients^{8,9}.

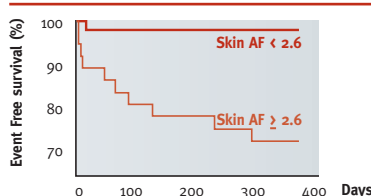
Renal transplantation patients



AGE Reader in cardiovascular disease

- An independent marker for acute myocardial infarction¹⁰.
- A non-invasive marker for inflammatory stress in stable coronary artery disease¹¹.
- AGEs predict future cardiovascular morbidity and mortality in STEMI patients^{11,12}.

Myocardial infarction patients

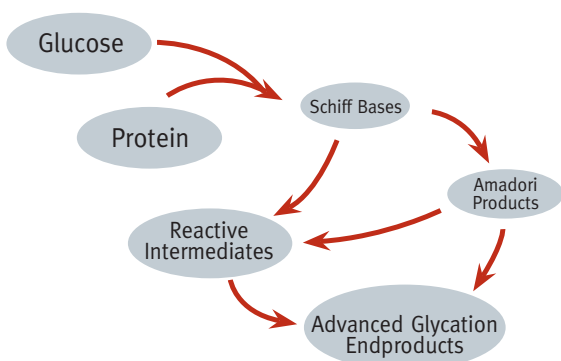


* For references, see backside of this brochure.

AGEs - Advanced Glycation Endproducts

AGE Reader validation

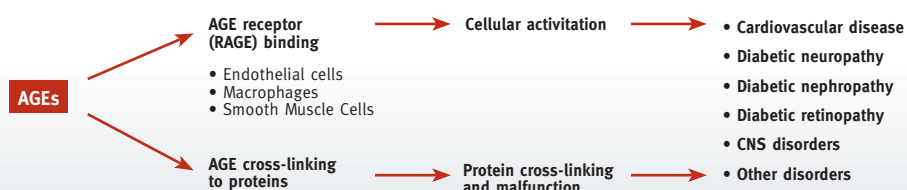
The AGE Reader has been validated against skin biopsy (the gold standard) in clinical settings¹³ and its clinical value was proven in several large scale clinical studies involving thousands of patients with diabetes, cardiovascular disease and renal failure^{3,6,14,15}.



About AGEs - Advanced Glycation Endproducts

AGEs play a pivotal role in the development of chronic age-related diseases such as diabetes, renal failure and cardiovascular disease. The level of AGEs in long-lived tissues (not in blood!) serves as a memory of glycometabolic and oxidative stress and is a valuable predictor of cardiovascular complications. AGEs quite normally accumulate over a person's lifetime, but this process occurs more rapidly in patients with conditions such as diabetes mellitus, renal failure and cardiovascular disease¹⁶.

Accumulation of AGEs is an important factor in the development of chronic complications of these conditions. Tissue AGEs correlate closely with early kidney, eye and nerve disease in patients with diabetes mellitus and they are valuable predictors of future cardiovascular morbidity and mortality⁴. New drugs, aimed at preventing formation of AGEs or breaking AGEs, are currently in (late) clinical development.



AGE Reader applications

Patient management

- Assessment of cardiovascular risk
- Identifying patients at high risk
- End point for measuring treatment response
- Improving targeted cost effective treatment plan

Clinical studies

- Studies on diabetes
- Studies on renal failure and cardiovascular disease
- Studies on other AGE related conditions

Scientific research

- Nutritional research
- Aging research
- Skin care research

Treatment selection and monitoring

- Identify good drug responders
- Pharmaceutical evaluation
- Intensive care patient monitoring
- Dialysis patient and renal transplant monitoring

New Drug development

- Inhibition of AGE formation
- AGE breakers and blockers
- New drug evaluation

Public screening

- Identify undiagnosed diabetic patients
- Identify individuals with high cardiovascular risk
- Professional health assessment

References

- ¹ Lutgers HL et al. Diabetologia. 2009; 52(5): 789-797.
- ² Gerrits E et al. Diabetes Care. 2008; 31(3): 517-521.
- ³ Lutgers HL et al. Diabetes Care. 2006; 29(12): 2654-2659.
- ⁴ Mulder DJ et al. Atherosclerosis. 2008; 197(1): 217-223.
- ⁵ Smit AJ et al. Cur Med Chem. 2004; 11: 1241-1253.
- ⁶ Meerwaldt R et al. J Am Soc Nephrol. 2005; 16: 3687-3693.
- ⁷ Hartog J et al. Transplantation. 2009; 87: 1069-1077.
- ⁸ Hartog J et al. Journal of Cardiac Failure. 2008; 14(7): 596-602.
- ⁹ Ueno H et al. Metabolism Clinical and Experimental. 2008; 57(10): 1452-1457.
- ¹⁰ Mulder DJ et al. Circulation. 2005; 112: 11-371.
- ¹¹ Mulder DJ et al. Netherlands Heart Journal. 2009; 17(4): 162-168.
- ¹² Meerwaldt R et al. Eur J Vasc Endovasc Surg. 2008; 36(2): 125-131.
- ¹³ Meerwaldt R et al. Diabetologia. 2004; 47: 1324-1330.
- ¹⁴ Meerwaldt R et al. Diabetologia. 2005; 48: 1637-1644.
- ¹⁵ Meerwaldt R et al. Ann N Y Acad Sci. 2005; 1043: 299-307.
- ¹⁶ Meerwaldt R et al. Cardiovascular Diabetology. 2008; 7: 29.

For an up-to-date list of publications regarding the AGE Reader and AGEs, please visit our website.



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