

PREDICTOR OF CHRONIC STRESS AND STROKE RISK

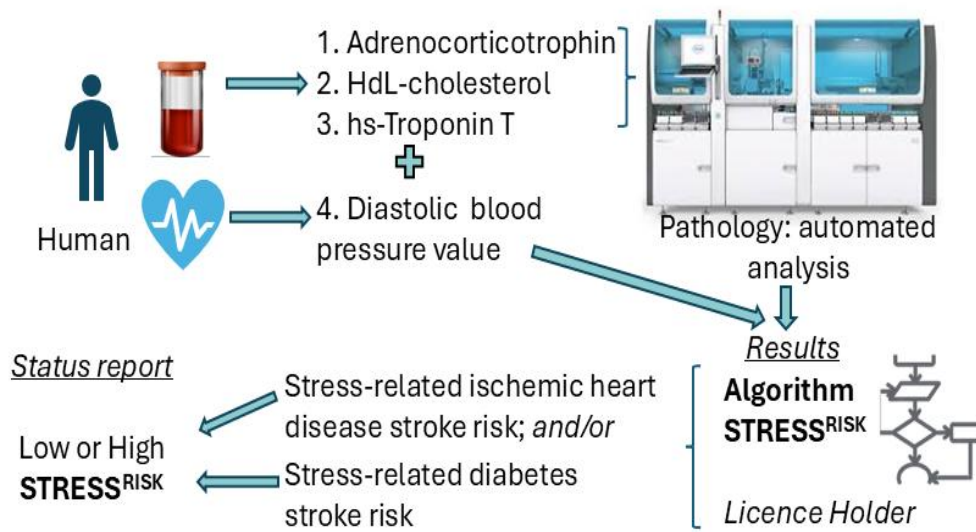
STRESS^{RISK} screening: Predicting ischemic heart disease-related stroke and diabetes-related stroke risk

Problem / Market Need

Heart disease and stroke remain leading causes of death and disability worldwide. Yet, little recognition is given to the link between ongoing relentless stress or chronic stress, heart disease and stroke, mainly due to difficulty of identifying and quantifying biomarkers reflective of chronic stress in the brain. Early warning signs therefore go undetected, resulting in potentially devastating health consequences for patients and significant costs to health systems.

Description of Solution / Technology

We have developed a cost-effective method to clinically measure and predict chronic stress-related stroke risk (STRESS^{RISK}) by interpreting three blood test results and a blood pressure reading in a specific relation to one another:

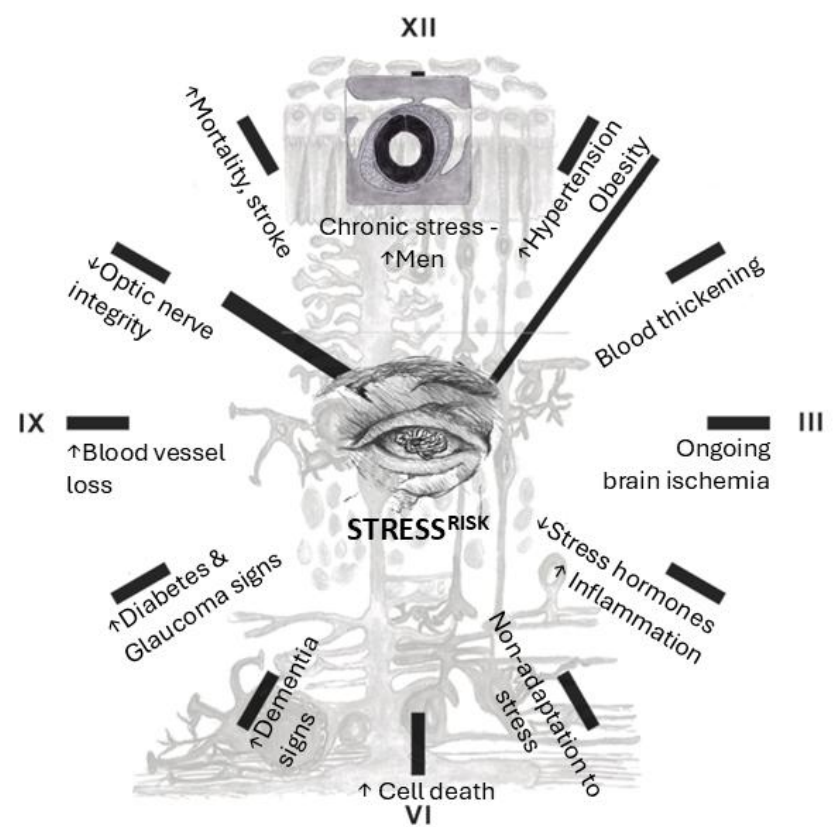


Applications / Relevant Industries

A timeous, reliable prediction of chronic stress related stroke risk (STRESS^{RISK}) benefits various stakeholders:

- **Medical care:**
 - ✓ Early intervention can overcome doctor and patient inertia to improve mental health awareness and patient outcome;
 - ✓ Preoperative screening can induce cautionary measures during operation and postoperatively to improve patient outcome;
 - ✓ Enablement of a rehabilitation chain from early diagnosis to self-rehabilitation and faith;
- **Health insurers, medical aids and public health systems** can eventually save significant costs by alerting members and encouraging behavioural interventions;
- **Life and disability insurers** can more reliably determine the actual health risks of a policy holder, calculate premiums more reliable and encourage preventative behavioural changes to delay or avoid payment triggers.

High STRESS^{RISK} ticking-clock signs



Adapted from Malan et al., 2023

Key Benefits / Advantages

- A reliable prediction of 77-82 % for chronic stress-related stroke risk allows for preventative intervention; ultimately saving lives and costs.
- Clinical biomarker levels are used instead of self-reported symptoms as basis for diagnosis and/or prognosis.
- This method provides awareness of a validated and tested health risk assessment for STRESS^{RISK} in patients.

Stage of Development

Supported by more than three decades' research in South Africa, we have developed a functional application that integrates an algorithm with a user interface, enabling users to submit biomarker data and receive a status report. The algorithm has been validated and tested in South Africa and verified in Sweden.

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Intellectual Property Status

As of September 2025, patents have been granted in SA and Australia, and are pending in the US, Canada and Europe.

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Opportunity

We are seeking industry players interested in licensing the technology.