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PERSONAL FINANCE TEAM OF THE YEAR

NEW BUSINESS: BLOOD MONITORING KIT EASES PATIENTS' PAIN

Microvisk's diagnostic SmartStrip liberates patients by allowing them to check their blood swiftly

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By Maisha Frost

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New gadget allows warfarin users to cut visits to doctor.

Freedom beckons for millions of patients taking the stroke and heart attack prevention drug warfarin as a new handheld device will enable them to monitor their blood regularly at home.

The world-first from Microvisk Technologies, a small UK life science company, marks a revolution in the way the blood clotting status of patients is measured and conducted.

Diet and exercise affect warfarin and at the moment patients must go for regular tests at their doctor's surgery or hospital clinic, often followed by a wait for laboratory results, to ensure they are getting the correct dose.

If it is too low there is the danger of a clot, if it is too high there is a risk of a life-threatening bleed.

> **"We're simple, accurate, reliable and low cost"**

Microvisk's diagnostic SmartStrip liberates patients by allowing them to check their blood swiftly and simply in a similar way to how diabetics test themselves for glucose.

About 7 million people take warfarin in the West and the number is growing by a million a year. With this size of market to aim at, the innovation could soon turn Microvisk into a firm turning over tens of millions of pounds.

Commercial manufacturing starts next year, now that the clinical trials are almost complete, patents have been granted and applications to meet European and US regulatory requirements are in the pipeline. The technology it applies is an advanced form of the micro-electro mechanical systems (Mems), the science that controls nano-robots and which is fundamental to gadgets such as Apple's iPhone and Nintendo's Wii games.

Microvisk has developed this into sensors that work out the clotting speed of blood from a finger-prick sample. This is placed on a hi-tech disposable strip and inserted into a hand-held monitor which displays the results immediately.

The method uses less blood so is less painful for patients. The company is rolling out two kits this year, one for the home and one for surgery use.

Once prescribed, warfarin is usually taken for life. That, along with rising patient numbers, has led to a real "explosion in the market size for coagulation testing and opportunities for innovators," explains Microvisk chief executive officer John Curtis, 59.

The firm is likely to appeal to customers in Germany and the US first, as these countries have introduced payments for all at-risk patients to do weekly home testing.

This reflects a growing trend for home-based diagnostic care, which is particularly effective in countries faced with the financial pressures of caring for aging populations.

In the case of traditional warfarin testing, laboratory equipment can cost up to £20,000, compared with Microvisk's £500-£700 kit.

The firm has a few competitors but is confident it has the edge because it answers doctors' concerns about some existing systems being either far too complicated or not strong enough for home use.

"We are different because we actually measure changes in the thickness of the blood, not the chemical side effects of clotting," says Curtis. "We are simple, accurate, reliable and low cost."

As a seasoned entrepreneur in the biotechnology field, he spotted the potential in 2005 when he approached the Science and Technologies Facilities Council looking for a spin out to take to market.

Based in Oxfordshire and north Wales, the company employs 24 and its international potential has made it a favourite of private and venture- capital investors

Funding stalled briefly after the banking crisis in 2008, but last year the company raised a record -breaking £10.5 million. Part of that was a £6 million round including Porton Capital, Oxford Technology Management, Finance Wales and Rainbow Seed Fund.

Much of the money will be used to launch in the UK in autumn as well as expanding research and manufacturing facilities. Curtis can see more applications for the technology in blood-testing, as well as other sectors, including the automotive (oil viscosity) and food industries

"Everyone wants their ketchup to flow smoothly, no lumps," he says.

Curtis will need more funding in future. But, he expects that to come from existing investors.

Microvisk is well set, but Curtis is less confident for the next generation of entrepreneurs.

The best way to encourage investors to back new, unproven innovations is to give them tax breaks he says.

"Investors should be allowed to invest more in enterprise and still get the tax rewards."

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