

## YOUR HEALTH

# Staying younger for longer



CLAIRE  
O'CONNELL

Researchers are looking for ways to recognise the onset of frailty in time to slow down the process

**W**E'RE ALL familiar with the term frail, but what does it really mean? And can you figure out when a person is headed towards frailty and intervene before they get there and have difficulty getting back to better health?

An ongoing study in Ireland is using non-invasive technologies to look for clues that could signal when a person is becoming frail, and make early intervention more of a possibility.

"The concept of people recognising what frailty is – it's the bread and butter of gerontology," explains Dr Chie Wei Fan, a senior lecturer in the department of medical gerontology at Trinity College Dublin.

"There's increasing literature trying to put a context around it, define it and measure it specifically. And the most exciting thing about it is that we are able to define it through just five characteristics." Those characteristics are unintentional weight loss, weakness, exhaustion, slowness and low physical activity.

Slowness of walking, in particular, is a marker that's relatively easy to detect but it can be an im-



portant indicator, says Fan. "It's quite a global measure. It could be a function of your heart, it could be a function of arthritis, of increasing impairment – it's a lovely way of measuring overall function."

If a person shows none of the signs of frailty, then they are robust, according to Fan. Having one or two can identify a person as pre-frail, and having three or more indicates frailty.

But gathering more of the markers hastens the decline, it seems.

"If a person transitions into pre-frail, the likelihood of transitioning into frailty is increased at least twofold," says Fan. "And in the frail category if you want to get back to being robust the likelihood is markedly reduced. It's like walking up a very steep hill."

That's why researchers at the Technology Research for Independent Living (TRIL) clinic in St James's Hospital are looking for ways to figure out if people are starting to become frail.

Between 2007 and 2009, the clinic assessed more than 600 adults with an average age of 73 and last year they started a longitudinal follow up.

The team is looking for easy-to-measure, reliable signals of cognitive performance, cardiovascular-related responses, psychological stress and underlying depression, explains Dr Fan, who spent three years as TRIL's director of clinical research.

One of the tests involves analysing the person's walk, including monitoring various aspects of how they stand up from a chair and walk a defined distance along a special pressure-sensitive mat.

"We are using new technologies to study in detail how they are walking – not just how long it takes to walk, but whether they are exhibiting features of instability," she says.

"What we are trying to find is if there is an even earlier marker, before you exhibit this slowness in walking. Then we are interested to see if we will be able to use these markers to pre-



dict that they could be hospitalised, that their health could deteriorate, that their cognition is going to be affected or that they could have more falls."

One of the most useful aspects of TRIL – a virtual centre with researchers based in University College Dublin, Trinity, NUI Galway and Intel – is the involvement of experts with many different backgrounds, whose own special area of interest is in falls and blackouts and who works closely with Prof Rose Anne Kenny.

"There's a whole range of biomarkers. We put it all into the pot. That is the brilliant thing about multi-disciplinary studies where you can put everything in," Fan says.

Other studies are also ongoing around the world on how to spot and address a transition to frailty. As the research continues, what can people do if they suspect approaching frailty in themselves or in loved ones?

**"Walking around, the whole effort of organising their thoughts – all these things are helpful in maintaining people's independence and engagement in life," says Dr Chie Wei Fan (below left)**

"Awareness is the main thing, and first and foremost I think they need to bring it up with their own family doctor," says Fan.

She adds that physical activity is helpful, and that people who care for or interact with older people should encourage them to maintain their independence as much as possible.

"Rather than bringing the tea to older people, let them take part in daily living," she says.

"Walking around, the whole effort of organising their thoughts – all these things are helpful in maintaining independence and engagement in life.

"So rather than saying you will do the shopping for them this week, invite them out and go to the market and walk around."

Nor should we wait until old age to start protecting ourselves against frailty, she adds. "Encourage even teenagers to start exercising now."

## DOES IT WORK? CAN HAWTHORN HELP WITH HEART FAILURE?

DÓNAL O'MATHÚNA

### BACKGROUND

Hedgerows that were white with ice only a few months ago are now white with hawthorn blossoms, also called the Maythorn. The mild weather has brought the blossoms earlier and in abundance.

A member of the Crataegus genus, hawthorn has a long history of medicinal use. The first-century Greek physician Dioscorides recommended it for heart conditions. In Germany and other countries, a standardised extract of hawthorn leaves and flowers has long been available on prescription for mild heart failure. Called WS 1442, it is found in the most popular hawthorn products.

### EVIDENCE FROM STUDIES

Laboratory and animal studies have shown that hawthorn extracts contain several compounds that affect the

blood and the heart. Extracts have a high flavonoid content, which gives them potent antioxidant activity. Other compounds have been found to dilate blood vessels, reduce blood pressure, lower cholesterol levels and have other actions that enhance cardiac activity.

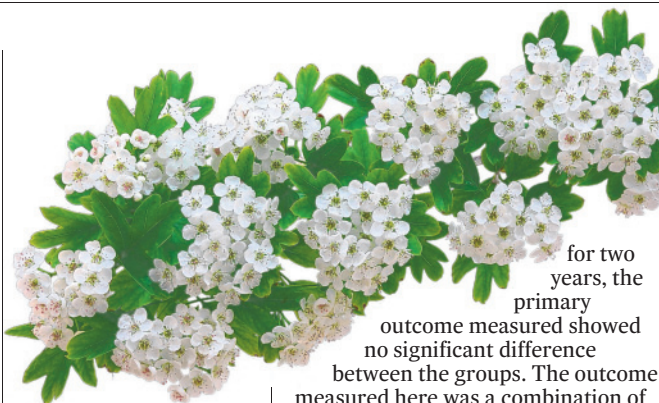
A Cochrane systematic review was published in 2008 and concluded that hawthorn extracts were beneficial for chronic heart failure when used in addition to conventional treatments. These conclusions were based on 14 double-blind, randomised controlled trials published in the preceding years.

The patients in these studies had relatively mild symptoms and overall had about a 10 per cent improvement in their ability to tolerate exercise when they added hawthorn extract to their conventional medicines.

However, all these studies involved relatively few patients as research subjects and were of short duration.

Since that review, three studies have been published which have cast doubt on the effectiveness and safety of hawthorn for the treatment of heart failure. All three used WS 1442, which was also used in most of the earlier studies examined in the Cochrane review. One of the newer studies, called the SPICE trial, enrolled 2,681 patients with mild to moderate heart failure who were receiving conventional cardiac medications.

After taking hawthorn or placebo



**Hawthorn extracts contain several compounds that affect the blood and the heart**

for two years, the primary outcome measured showed no significant difference between the groups. The outcome measured here was a combination of features such as time before a cardiac event, heart-related hospitalisation, cardiac death. All of these are clinically objective measurements, unlike the earlier, short-term studies which measured outcomes such as exercise capacity and subjective symptoms. However, one sub-group of patients did have significantly fewer sudden cardiac deaths in the hawthorn group, suggesting that hawthorn may be beneficial for some patients.

### PROBLEMATIC ASPECTS

In general, hawthorn causes few side effects. Sometimes dizziness and gastrointestinal problems occur, but tend to be mild and short-lived. Given the evidence that hawthorn can have cardiac effects, it may interfere with other heart medications, but this has not been examined in research. It has

been suggested that that patients with heart failure should be carefully monitored if they take hawthorn.

### RECOMMENDATIONS

Earlier evidence from smaller, shorter studies suggested that taking hawthorn provides additional benefits for patients with mild to moderate heart failure receiving conventional therapy. More recent and larger studies have raised questions about these early results.

Part of the discrepancy may be because the earlier studies did not closely monitor the other medications patients were taking. The recent studies have done this and suggest that hawthorn may not provide additional benefits. Hawthorn may benefit specific patients, particularly those at higher risk of sudden cardiac death.

Given these recent findings, anyone with concerns about a heart condition should consult a doctor before taking hawthorn. Since almost all the research has been conducted with heart failure patients with mild to moderate symptoms, those with more serious heart problems should not rely on hawthorn.

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