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New study validates face recognition app in pain detection

Highlights:

- Peer reviewed study confirms validity of ePAT (electronic pain assessment tool)
- 353 paired observations in 40 residents showed ePAT has proven validity and reliability compared to existing pain scales
- Study in J. of Alzheimer's Disease shows ePAT is a suitable pain assessment tool for people with moderate to severe dementia

A new study has been accepted for publication in the **Journal of Alzheimer's Disease**¹ that confirms the validity and reliability of the Electronic Pain Assessment Tool (ePAT) in people with moderate to severe dementia.

The news has been welcomed by ePAT Technologies (ASX:EPT, 'ePAT' or the 'Company') as it represents another milestone in the commercialisation of its smart phone App for pain detection.

The study comprised 353 paired observations in 40 people with moderate to severe dementia (aged 60-98 years). Pain assessments derived from ePAT were compared with a widely used existing pain scale (Abbey Pain Scale). The results showed a strong positive correlation between the two tools.

Co-author Professor Jeff Hughes from Curtin University in Western Australia said the results were important given the potential for point-of-care pain detection systems to deliver better health outcomes for patients.

"Pain is very common among people with dementia but as the disease progresses they often lose their ability to communicate verbally, so the pain goes undetected. Being able to show the validity and reliability of an app used on a smartphone is an important step toward the adoption of more convenient technologies to derive accurate pain assessments," said Professor Hughes.

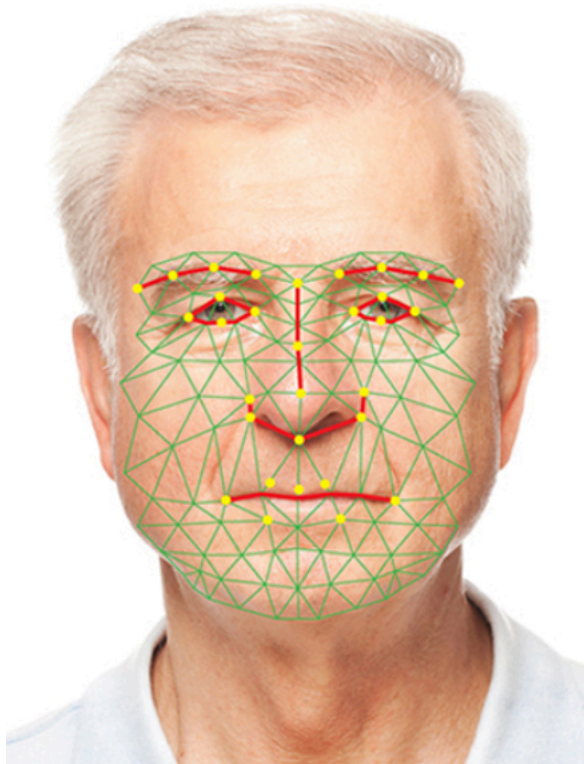
ePAT CEO Phillip Daffas welcomed the results.

"This is another important milestone in showing the effectiveness of the ePAT technology," said Daffas. "Smart phone enabled medical Apps are becoming increasingly popular in the healthcare market. Demonstrating validity and reliability in peer reviewed journals is difficult, time-consuming work. But they are critical benchmarks for companies that want to be major players in that space. So having these results accepted in a peer reviewed journal is very important to us," concluded Daffas.

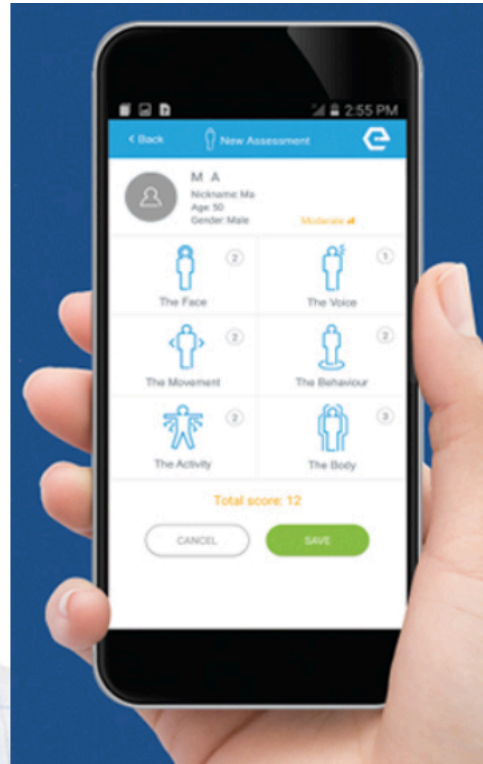
1. Pain assessment in dementia: Evaluation of a point-of-care technological solution. Mustafa Atee, Kreshnik Hoti, Richard Parsons, Jeffery D Hughes. Journal of Alzheimer's Disease. In Press. July 2017.

About ePAT:

ePAT Technologies Limited is an Australian based company which is developing mobile medical applications that are intended to provide pain assessment for individuals that are unable to communicate verbally with their carers.



ePAT artificial intelligence assesses facial micro-expressions that are indicative of the presence of pain



The ePAT App six domains of pain assessment that calculates a pain severity score

The ePAT business:

The ePAT business has evolved from research undertaken by Curtin University in Western Australia over the past 3 years. ePAT now owns the intellectual property resulting from Curtin University's research on the ePAT Apps.

ePAT's technology, a mobile application (**ePAT App**), uses cameras in smartphones and tablets to capture a brief video of the person, which is analysed in real time using facial recognition software to detect the presence of facial micro-expressions that are indicative of the presence of pain. This data is then combined with other indicators of pain, such as vocalisations, behaviours and movements captured through the ePAT App to calculate a pain severity score.

Due to its ease of use and its reproducibility, it is intended that the ePAT App will be able to be used in the first instance to detect and measure a person's pain, and then further measurements can be used to monitor the effectiveness of pain management provided to the person.



ePAT App in practice - assessing pain severity

The ePAT App is being developed and will be rolled out globally in two phases: first, the ePAT App for Dementia for persons who have lost the ability to communicate with their carers, and the second, the ePAT App for Children who have not yet learnt to speak.

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