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Resonance Health

ASX Release

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Artificial Intelligence Solution for the Substantial Iron Overload Market in Emerging Growth Markets

Resonance Health (ASX:RHT) is delighted to announce the development of a machine learned artificial intelligence (AI) prototype for a low-cost test to measure liver iron concentration (LIC). This development follows results from a recent study confirming the urgent need for an affordable solution for measuring LIC in developing nations; where a widely-available but unvalidated T2* technique is potentially endangering patients' lives. The AI test will enable iron overload management at a significantly lower price point to FerriScan®, the Company's regulatory-cleared and globally recognised gold standard for LIC measurement. These new developments will not only allow penetration of the substantial markets of iron overloaded patients in these emerging growth markets but also position the Company at the cutting edge of AI in healthcare.

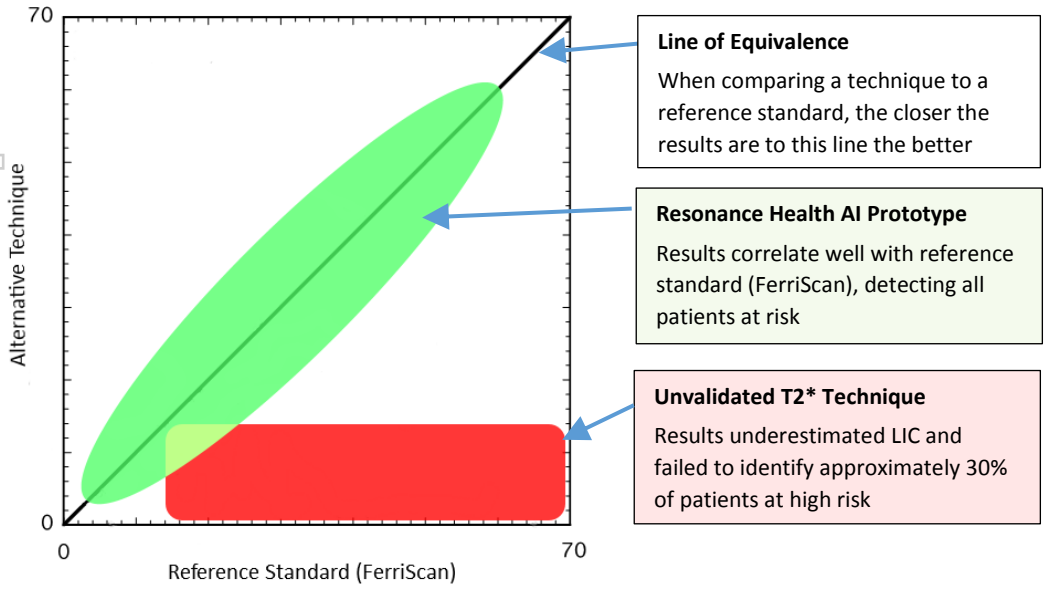
A Widely-Available T2* Method of LIC Assessment Proven Unsafe for Routine Clinical Use

The results of a recent study to be presented at the European Haematology Association (EHA) congress this month[i] have raised significant concerns regarding patients' safety when assessed using a widely available LIC assessment technique; the Iron Health T2* method. The study compared the T2* estimations against the validated reference standard, FerriScan:

- The T2* technique failed to identify approximately 30% of the patients confirmed by FerriScan to be at greatly increased risk of cardiac disease and early death.
- As such, these patients are at risk of not receiving potentially life-saving treatments.
- The study concluded "*the data indicate that the T2*/R2* method of measurement of LIC is not safe for routine clinical measurement of LIC*" and "*could result in inappropriate clinical decision making*".

Artificial Intelligence Prototype for LIC Measurement Outperforms Widely-Available T2* Method

The current AI prototype with increased automation and throughput is demonstrating a significant correlation with the true LIC value as measured by FerriScan and has superior performance when compared to the unvalidated T2* technique.



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Further testing has commenced on larger datasets to prove the robustness of the AI prototype for clinical application. Globally, there are over 330,000 people born annually with haemoglobin disorders alone; a significant proportion of whom could benefit from the new AI test. Following demonstration of its robustness, the test will be rolled out to emerging growth markets, allowing replacement of the inferior T2* method.

Resonance Health will partner with clinicians, patient advocacy groups, and pharmaceutical companies to educate the clinical community about the risk to patient safety from using inferior techniques and to promote the new AI test. With concerns for patient welfare, patients previously assessed with the inferior method will be encouraged to undergo the new AI test. In conjunction with the roll out of the AI test in emerging growth markets, FerriScan, with its established brand of quality and accuracy, will continue to be delivered in existing regulatory-cleared markets.

Next Steps as Resonance Health Makes Significant Advances in Artificial Intelligence

This considerable advancement into the era of artificial intelligence marks a milestone towards the Company's strategy to further automate established products and diversify its product portfolio. The current and ongoing work in the world-leading field of AI will open previously inaccessible market opportunities with one-click solutions. The Company's substantial database of high-quality medical images will be used to mine further opportunities in the field of quantitative liver disease, with further work already progressing.

The Company is also investigating alternative distribution pathways to enable the technology to be introduced directly to the radiologist's desktop. To facilitate this, collaborations are being explored with original equipment manufacturers (OEMs) and providers of analytical software packages.

Martin Blake, Resonance Health Chairman commented:

> *"Resonance Health is one of the first organisations worldwide to successfully apply state-of-the-art artificial intelligence techniques to a quantitative assessment of medical images. Operating at the forefront of these new technological advances and developing the Company's expertise in this area will further cement its position as global leader in quantitative medical imaging. We believe these revolutionary developments in artificial intelligence capability significantly reposition the Company."*

Resonance Health looks forward to updating the market over the coming months as this work progresses.

Martin Blake
Chairman RHT

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[i] The abstract of the recent study has been accepted by the European Haematology Association (EHA) for a presentation at their 22nd Congress. The abstract, ***Assessment of the performance of a widely available T2*/R2* liver iron concentration method used in clinical practice in a population of Thalassemia patients*** (Trang et al, 2017), is now available online to those registered for EHA and will be published later in the year. Resonance Health's Chief Scientific Officer, Prof. Tim St Pierre, who is highly respected in the clinical community, will present the results of the study at EHA on 23rd June 2017 in Madrid, Spain.