



Press release
May 25, 2020

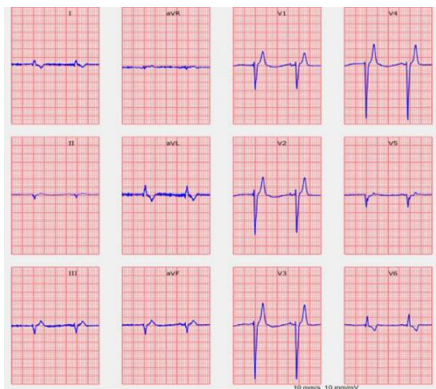
New Dutch ECG technology shows heart disease in COVID19 faster & distinctive.

COVID-19 patients are at an increased risk of (fatal) complications from cardiovascular disease. Some of these patients have pre-existing heart complaints, but another group develops inflammation of the heart tissue (Myocarditis) due to the COVID-19 virus. But timely identification of heart complaints such as Myocarditis and also Ischemia with COVID-19 is particularly difficult because the heart film (ECG, electrocardiogram) does not show a clear disease pattern. And making an MRI or CT is very difficult or excluded in COVID19 patients. As a result, diagnosis and therapy are often not optimal. The Dutch company ECG-Excellence has developed a new technology to assist doctors in detecting these heart complaints with the help of the ECG. "There is more to see in the ECG".

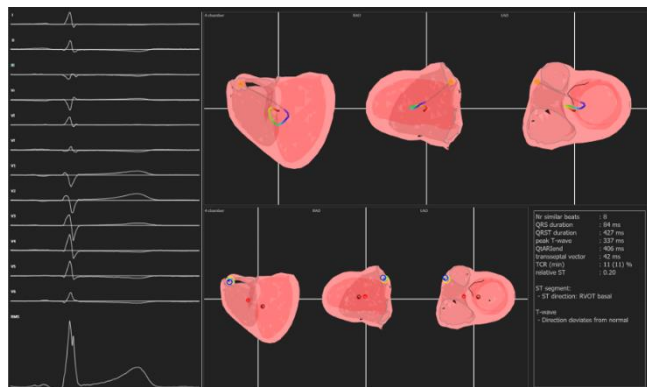
Fatal conditions such as Myocarditis and Ischemia can now be quickly identified. Myocarditis is difficult to recognize in the familiar ECG wave patterns. This hinders effective treatment. The subtle changes in the ECG graph are often very different per heartbeat, hindering a standard pattern in the ECG graph. And alternative techniques such as MRI, CT or Ultrasound are not suitable for use in COVID-19 patients. An additional complication is that with an ECG, the unclear signals of a heart infection also resemble the ECG images of Ischemia. In Ischemia, the heart tissue does not receive enough oxygen and a heart attack can occur. The technology of ECG-Excellence is now able to process the ECG information in such a way that clear patterns become visible and with this, doctors can obtain the information they need.

The company, located in Nieuwerbrug aan den Rijn The Netherlands, is developing technology that enables Myocarditis and Ischemia to be recognized on the basis of the classic 12 lead electrocardiogram (ECG) data. Dr. Peter van Dam PhD, scientific director explains: "We transform the analogue ECG signal into a digital solution, using modelling software to convert the "hard" readable graphs into 3D representations of the heart, which are easy to interpret. We are currently using hundreds of ECGs from COVID19 patients to set up our technology to quickly and simply visualize the specific heart-related diseases in COVID19. It is our intention to make this technique suitable for general practitioners as well, so that they can be supported in the early recognition of these cardiovascular diseases." The struggle of general practitioners to properly recognize cardiovascular disease in Corona suspicions has recently been announced through the Dutch Heart Foundation.

Supported by Health Holland and in collaboration with the University Medical Centre Utrecht (UMCU), ECG-Excellence has access to a database with hundreds of ECGs of COVID 19 patients. The Dutch Cardiovascular Alliance is the initiator of this Capacity Covid register in which more than 51 hospitals from more than 15 countries work together. The first tests with the ECG-Excellence technology on the ECGs in this database show that the ECG Excellence technology can reveal the specific patterns.



Classic 12 lead ECG output



ECG-Excellence 12 lead ECG visualization

ECG Excellence 2020

ECG Excellence is a Dutch company based in Nieuwerbrug, The Netherlands. The team behind ECG Excellence has been at the basis of ECG simulation technology such as ECGsim.org used by Universities worldwide in research and education. In 2019, a first product using a similar technology has been approved by the FDA in America for use in hospitals. This proprietary technology allows cardiologists to determine the location of a ventricular arrhythmia with almost 100% certainty compared to today's average result below 50%. More information about ECG-Excellence can be found at www.Ecg-Excellence.com.

Capacity Covid Registry is an initiative of the Dutch Cardiovascular Alliance. DCVA is a partnership between almost all parties involved in high-quality research into new cardiovascular solutions in the Netherlands. The initiator of the Capacity Covid Register is Professor Folkert Asselbergs, affiliated with the UMCU. More information can be found at <https://capacity-covid.eu/>

More information on the Health Holland rapid COVID response project can be found at <https://www.health-holland.com/project/2020/electrocardiogram-analysis-for-early-detection-of-cardiovascular-diseases-in-covid-19>

For more information about the technology developed by ECG-Excellence, please contact

Hans Slijp, director of ECG-Excellence
 Email: Hans.Slijp@peacs.nl
 phone: +31641182393

ECG-Excellence BV
 Weijland 38
 2415BC Nieuwerbrug aan den Rijn
 The Netherlands