



# CONNECT

## An innovative perspective for heart attack patients

### Background

Pentracor GmbH was founded in 2010 and primarily deals with the treatment of myocardial infarctions. Last year, the company received the German Medical Award 2020 in the category „Medical Innovation Practices & Clinics - Cardiology“. With the help of various investors and partners, Pentracor was able to develop the world's first extracorporeal therapy method and to test and successfully market the innovative procedure in studies with various areas of application.

### The C-reactive protein and its effects

According to statements by the Federal Statistical Office, the most common cause of death in Germany in 2021 is cardiovascular disease. This result has already been reflected for 20 years. In 2019, around 9 million people worldwide died of heart disease followed by strokes. 30% of patients who have survived a severe heart attack often have to deal with a severely reduced cardiac output and almost half die from the consequences within five years.

In a myocardial infarction, the heart is not supplied with enough blood. Due to a blood clot, the coronary vessel is blocked, cutting off the oxygen supply to parts of the heart muscles. affected persons often experience heart pain and nausea in this acute emergency situation. Quick recognition and action is necessary to supply the heart muscle tissue with the required amount of blood and oxygen as quickly as possible and thus not retain irreversible damage.

As a result of inflammations and infections, the CRP protein is formed in acute phases. On the one hand, this protein is involved in the defence against infections and on the other hand in the removal of dead cells but also in the disposal of living cells. As a result, wounds on the skin surface remain open until immune cells have fought off all pathogens. In the case of organ damage, however, which occurs after a heart attack, for example, the damage becomes more pronounced.

The German company Pentracor has developed an innovative CRP apheresis therapy that is used for blood washing. The therapeutic areas of application are versatile and include acute heart attacks, strokes, global cerebral ischaemia after resuscitation, COVID-19, Crohn's disease, as well as pancreatitis and sepsis.

The patented CRP apheresis bloodwashing procedure lowers the blood-borne protein CRP, which is a major cause of harmful inflammation. This result is not yet uniformly represented, but Pentracor's study results show clear results indicating



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that CRP contributes significantly and directly to tissue destruction. The impact and severity of damage of various diseases are said to have elevated CRP levels as a cause.

When examining patients with the PentraSorb CRP who have suffered a severe heart attack, the reduction in hub size and the cardiac output present are analysed. The procedure can be performed on an outpatient or inpatient basis and requires two different devices. The primary device is responsible for blood-plasma separation and can be a hospital-standard filter device or a centrifuge. The secondary device is used to control the individual apheresis cycles. Apheresis is first initiated by separating the blood plasma and then pumping it through the Pentrasorb CRP. Here the CRP in the plasma is reduced and returned to the patient.

Doctors who took part in the studies report that patients treated with CRP apheresis had significantly weaker heart attacks or some of them could be completely averted than in comparison groups. The overall performance as well as function of the heart muscle was also significantly better after the blood washing treatment than in the patient group without CRP therapy. These results could be determined and proven by means of magnetic resonance imaging.

You want to know more about CRP apheresis therapy? We would be happy to put you in touch with the company. We have already continued our research and found some more exciting national and international companies as well as research centres that are also active in the field of myocardial research and development. arcoro CONNECT links personally and directly.



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COMPANY	LOCATION	WEBSITE	FIELD OF EXPERTISE
Pentracor GmbH	Germany	<a href="https://www.pentracor.de/">https://www.pentracor.de/</a>	CRP apheresis
Zoll Medical Corporation	USA (MA)	<a href="https://www.zoll.com/">https://www.zoll.com/</a>	SuperSaturated Oxygen (SSO2)-therapy
Cardiovascular Systems Inc	USA (MN)	<a href="https://csi360.com/">https://csi360.com/</a>	Treatment of coronary heart disease
BioVentric	USA (CA)	<a href="https://bioventrix.com/de/main">https://bioventrix.com/de/main</a>	LIVE-therapy (Less Invasive Ventricular Enhancement)
Medizinischen Hochschule Hannover (MHH)	Germany	<a href="https://www.mhh.de/">https://www.mhh.de/</a>	SuperSaturated Oxygen (SSO2)- therapy
Deutschen Zentrums für Herzinsuffizienz (DZHI) am Universitätsklinikum Würzburg	Germany	<a href="https://www.ukw.de/behandlungszentren/dzhi/startseite/">https://www.ukw.de/behandlungszentren/dzhi/startseite/</a>	Research into treatments for coronary heart disease

You want a direct contact person? No problem! We introduce you to industry experts with personality, visionary goals and years of experience in heart attack research. Simply contact us with your request and we will be happy to connect you!

INDUSTRY EXPERT	JOB POSITION	FIELD OF EXPERTISE
Prof. Dr. med. Jan Torzewski	Head physician at the Heart and Vascular Centre of the Allgäu Hospital Association	Cardiology and intensive care
Prof. Dr. Andreas Schäfer	Head of Cardiovascular Intensive Care Medicine (MHH)	Cardiology
Prof. Dr. Aron-Frederik Popov	Head of Cardiac Surgery at the University Hospital and Medical Faculty Tübingen	Cardiology

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