



SAFE TETRA

S A F E T Y G U A R A N T E E D

**'Ensure safety for citizens and
emergency services when using TETRA transmitters' ...**

... is the title of the research project KIRAS which was established in 2009 by Seibersdorf Laboratories in collaboration with the Austrian Red Cross, the Lower Austria County Fire Fighting Federation and the Federal Ministry of the Interior.

THE GOAL.

The goal of SAFE TETRA is the scientifically demonstrated safety

- ... for citizens, especially people carrying active electronic implants close to TETRA transmitters
- ... for all users of TETRA transmitters (employees of the Austrian authorities and organisations in pursuance of safety.

It was necessary to find out the potential dangers for people carrying electronic implants such as cardiac pacemakers resulting from the emissions of TETRA transmitters and to research the exposure to emitted electromagnetic fields when permanently carrying TETRA transmitters.

R

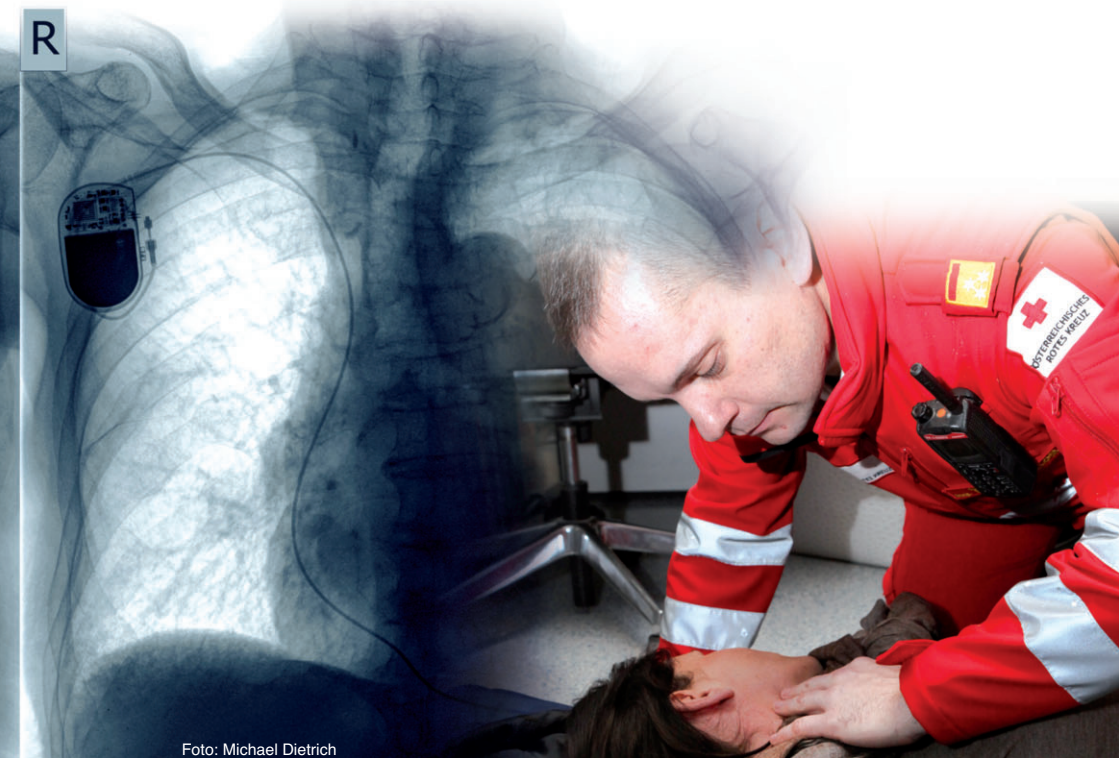


Foto: Michael Dietrich

ENSURE SAFETY FOR CITIZENS AND EMERGENCY

THE GUIDELINES.

- ... The following guideline assures that encounters between citizens and emergency services carrying a transmitter do not evoke any health concerns:

A safety distance of 30cm between implant and transmitter must be kept to exclude any influence on the implant by a TETRA transmitter.



Concerning the use of mobile phones similar recommendations are applicable for people carrying implants or for people that are close to persons with implants (for details, please visit www.wbf.or.at).

- ... The subsequent guideline applies to minimise the exposure of people carrying TETRA transmitters to emitted electromagnetic fields :

Every millimetre counts! The TETRA transmitter and the human body shall be as far apart as possible. Distance is the crucial factor to allow minimising the electromagnetic fields.



Foto: ÖRK/Gerald Czech

SAFE TETRA AND EMERGENCY SERVICES IN CONTACT

The purpose of this study is to investigate the encounter between emergency services carrying a TETRA transmitter and citizens carrying an electronic implant (cardiac pacemaker).

Several laboratory test were executed to find out under which circumstances TETRA transmitters interfere with the functioning of cardiac pacemakers or other electronic implants..



RESULTS OF THE STUDY

Given the maximum sensitivity of an implant and the maximum transmitting power of a TETRA transmitter, an influence exists for a distance of up to 30cm.

In case the transmitting signal is understood as the heart signal, a temporary malfunction of the implant may occur. A permanent disorder of the implant, e.g. damage of the implant's electronics, is not to be expected in any case. The implant can be expected to be free of interference as soon as the distance to the TETRA transmitter is increased to 30 cm or more.

The worst case scenario - implant at maximum sensitivity, TETRA transmitter at maximum transmitting power and unfavourable distance between TETRA transmitter and implant – is highly unlikely in real life conditions. Noticeable influences for a person with an implant are therefore only expected in extreme situations.

WITH THE POPULATION.



Foto: BMI/Alexander Tuma

Y SERVICES WHEN USING TETRA TRANSMITTERS

SAFE TETRA AND PEOPLE CARRYING TETRA TRANSMISSION

About 80,000 employees of authorities and organisations in pursuance of safety are using TETRA transmitters in their daily duty in Austria.

The power consumption of the human body is the basis for an internationally defined limiting value which limits the permissible exposure to transmitters of every description of the human body. By the current state of scientific knowledge, a human's health is NOT affected by carrying a transmitter as long as the received power is below this limit.

Surveys were conducted to determine the typical usage of TETRA transmitters (carrying method and handling) by ambulance services, police forces and fire brigades. Simulation models based on the human body were then computed to assess the impact of TETRA transmitters on the human body.



ENSURE SAFETY FOR CITIZENS AND EMERGENCY

TTERS.

RESULTS OF THE TEST SERIES

The SAFE TETRA study has proven that the above mentioned limiting value has not been exceeded in any of the simulated scenarios. Additionally, simple guidelines were created based on the results of the tests that reduce the exposure for carriers of TETRA transmitters to a minimum for the users.

No exceeding of the limiting value has been noticed among the calculations. Only 47 per cent of this limit were reached in the most unfavourable case. This means that all the calculated exposures were situated in the bottom half of the allowed limit.

Moreover, these results were predominantly equal, independent of the manufacturer.

As a consequence the carrying of TETRA transmitters in accordance with regulations does not bring any impairment to health.

The following guidelines shall be followed when using a TETRA transmitter:

- *Instead of holding the device close to the ears, locate it in front of the mouth with a distance of a few centimetres when transmitting.*
- *Make use of the vehicle's in-built transmitter (if applicable) and switch off the handheld transmitter.*



CLOSING WORDS.

60,000 people with cardiac pacemakers were registered in Austria at the point of time of the project (2009-2011). About 80,000 employees of authorities and organisations in pursuance of safety are using TETRA transmitters on a daily basis.

The research project was managed by Seibersdorf Laboratories.

The associated brochure solely includes the results of the project and the consequent guidelines to raise the feeling of safety for people carrying a cardiac pacemaker and for carriers of TETRA transmitters.

Further information on KIRAS-projects and the SAFE TETRA study can be found on:

<http://www.kiras.at/gefoerderte-projekte/> and

<http://www.kiras.at/gefoerderte-projekte/detail/projekt/safe-tetra2/>

For detailed questions please contact:

office@seibersdorf-laboratories.at

A public discussion about the impacts of electromagnetic fields on the human body does exist but the results of the SAFE TETRA study are reassuring citizens as well as members of the Austrian emergency services.

SAFE TETRA was funded by the Federal Ministry for Transport, Innovation and Technology within the framework of national security research programme KIRAS.



FFG

BM.I  **REPUBLIK ÖSTERREICH
BUNDESMINISTERIUM FÜR INNERES**


KIRAS
Sicherheitsforschung




ÖSTERREICHISCHES ROTES KREUZ

**SEIBERSDORF
LABORATORIES**


bm  

Aus Liebe zum Menschen.