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Mobile Intensive Care Unit: Technical and clinical aspects of interhospital critical care transport

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The Mobile Intensive Care Unit (MICU) is a combination of i) a team of critical care nurse, physician and ambulance driver, ii) a MICU-trolley (i.e. equipped with cardiovascular monitor, mechanical ventilator, syringe pumps etc. indispensable for safe transport and iii) an Intensive Care ambulance. This thesis comprises of research on technical and clinical aspects of interhospital critical care transport executed by the MICU of the Academic Medical Centre in Amsterdam.

Are new mobile phones and wireless auto-identification techniques (Radio Frequency Identification, RFID) really safe in the critical care environment? When do Dutch intensivists consider critical ill patients suitable for transport and under which conditions? Which new generation transport ventilators are accurate enough to replace an ICU-ventilator during ground critical care transport? Could a critical care nurses assisted by a paramedic safely escort such a transport or is presence of a critical care physician imperative? Finally, a failure mode effect analysis was performed on the process of interhospital critical care transport with subsequent recommendations.