

Safe and effective CPR during helicopter transportation

With LUCAS Chest Compression System it is possible to provide life-sustaining CPR (cardiopulmonary resuscitation) in cardiac arrest patients without compromising on rescuers' health or safety during helicopter transportation. LUCAS takes care of the compressions, allowing for rescuers can stay secured during the critical phases of a flight; take-off, in-flight and landing. Effective and uninterrupted chest compressions are vital for cardiac arrest patients' outcomes.

Several helicopter rescue services around the world use LUCAS in a wide variety of helicopter models¹, including:

- Agusta Westland AW 139
- AS 332 L1 Super Puma
- Bell 407, 429 & 430
- Beech King Air B200 RB
- Eurocopter EC 135 & 145 & 225 LP
- Sea King MK43B



LUCAS is used by e.g. Air Zermatt (EC145) Switzerland

LUCAS is compact and lightweight (<10kg/22 lbs totally when stored in back pack with two batteries and standard accessories). It is easy to handle and apply, also in confined spaces. Two batteries allows for 90 minutes of operation, which can be prolonged by using the external power supply.

LUCAS has been tested according section 21 in the RTCA/DO-160F, Environmental Conditions and Test Procedures for Airborne Equipment, which is a standard for environmental test of avionics hardware. LUCAS 2 complies with the radiated emission (category L) and with the conducted emission (category L, M and H). This means that the LUCAS 2 does not influence nor is influenced by the flight environment in this test.

LUCAS increased CPR quality in simulated helicopter studies

- LUCAS **compression quality** was **100%** correct vs. **41%** with manual CPR during a helicopter in-flight manikin scenario. The confined and unfavorable working position made it difficult to deliver quality of manual CPR whereas LUCAS clearly improved CPR during transport².
- In a 14 minute long resuscitation simulation in a helicopter manikin setting, the **hands-on ratio with LUCAS** was **86%** compared to 79% with manual CPR³.

Latest international guidelines for CPR⁴ recognize that mechanical CPR may be beneficial in situations where manual CPR is difficult to perform effectively or safely, such as during transportation, in confined spaces and during prolonged resuscitations.

¹ Customer references can be provided upon request

² Putzer G, Braun P, Zimmerman A, Pedross F, Strapazzon G, Brugger H, Paal P. "LUCAS compared to manual cardiopulmonary resuscitation is more effective during helicopter rescue – a prospective, randomized, cross-over manikin study" The American Journal of Emergency Medicine 2012, in press July 2012

³ Munch M, Rehatschek G, Strohm M, Schenk I, Hering R. "Resuscitation in Rescue Helicopter (RTH) – the feasibility and efficacy of a mechanical CPR device in an RTH simulator (translated from German language). Intensiv und Notfallmedizin 2010;4: 295

⁴ 2010 Guidelines for CPR by American Heart Association and by European Resuscitation Council