

# LUCAS<sup>®</sup> 3 Chest Compression System

## System Values



The LUCAS Chest Compression system provides benefits to cardiac arrest patients by delivering Guideline-consistent, high-quality chest compressions even under difficult conditions and for extended periods of time. The device allows you and your team to work more efficiently without having to compromise on your own safety.

### Improved outcomes

- Contributes to increased survival rates in systems of care<sup>1</sup>
- As safe and effective as high-quality CPR in large randomized trial with >99% good neurological outcomes<sup>2</sup>

### Improved hemodynamics

- Greater blood flow to brain and heart<sup>3,4,5</sup>
- Higher EtCO<sub>2</sub> values indicative of higher chance of ROSC<sup>6</sup>

### Improved CPR metrics

- More consistent quality (depth and rate)<sup>7,8,9</sup>
- Fewer interruptions<sup>10,11</sup>

### Reduce event stress

- Eliminates focus on 'who's next for compressions?'
- Focus on treating underlying condition

### Do more with less

- Can provide high-quality care even when short-staffed
- More efficient use of resources

### Provides CPR guidance and data for feedback

- Ventilation alerts
- Post-event data reporting

### Facilitates extended resuscitations

- Chest compression quality is not limited by fatigue
- Published multi-hour successful resuscitations

### High-quality CPR during transport

- Improved CPR quality<sup>7,8</sup>
- Fewer interruptions<sup>10</sup>
- Patient transfer without impacting CPR

### Bridge to PCI or ECMO

- Extend reach of care with consistent and high-quality compressions
- Facilitates ECMO/PCI and allows for treatment of the underlying cause during CPR

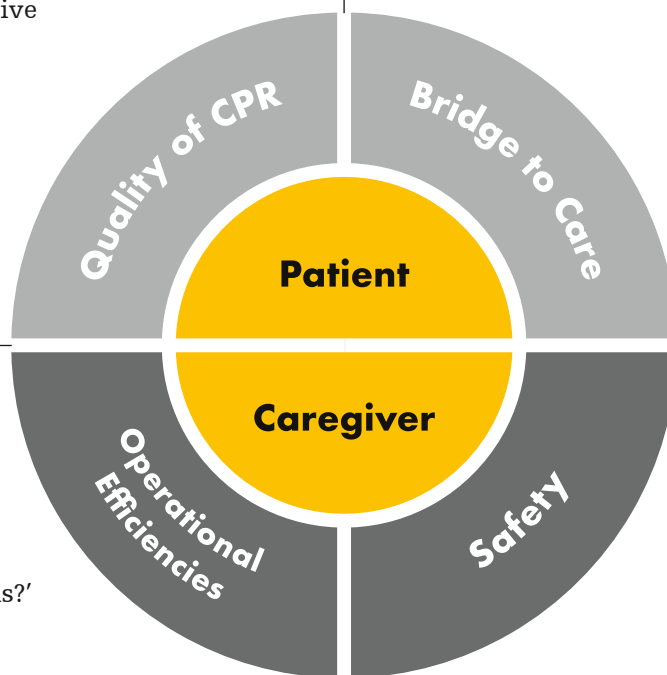
### Facilitates safer transport

- Rescuers can avoid awkward and potentially dangerous situations when performing CPR during patient transport

### Reduce work-related injuries

- Reduce body strain during extended resuscitations
- Provide high-quality CPR in awkward physical conditions

### Reduce X-ray exposure of CPR provider during PCI



# Industry-Leading Partner

At Stryker we not only offer the best solutions for your needs, we also ensure you have the best resources and support to implement and maintain our solutions.



## SERVICE

We offer comprehensive support to fit your needs.



## CLINICAL TRAINING

We provide comprehensive training to establish and maintain quality clinical practices.



## LEGACY

As the industry pioneer in defibrillation, mechanical chest compression and external pacing, we continue to innovate products to evolve patient care.



## FINANCE

We offer numerous payment structures that can be customized to meet budgetary needs and help to build long-term financial stability.

### References

- 1 Sporer K, Jacobs M, Derevin L, et al. Continuous quality improvement efforts increase survival with favorable neurologic outcome after out-of-hospital cardiac arrest. *Prehosp Emerg Care*. 2016;14:1-6.
- 2 Rubertsson S, Lindgren E, Smekal D, et al. Mechanical chest compressions and simultaneous defibrillation vs conventional cardiopulmonary resuscitation in out-of-hospital cardiac arrest: The LINC Randomized Trial. *JAMA*. 2014;311:53-6.
- 3 Carmona Jiménez F, Padró PP, García AS, et al. Cerebral flow improvement during CPR with LUCAS, measured by Doppler. *Resuscitation*. 2011; 82S1:30,AP090. [This study is also published in a longer version, in Spanish language with English abstract, in *Emergencias*. 2012;24:47-49].
- 4 Larsen A, Hjørnevik A, Bonarjee V, et al. Coronary blood flow and perfusion pressure during coronary angiography in patients with ongoing mechanical chest compression: A report on 6 cases. *Resuscitation*. 2010;81:493-497.
- 5 Wagner H, Madsen Hardig B, Harnek J, et al. Aspects on resuscitation in the coronary interventional catheter laboratory. *Circulation*. 2010;122:A91 (+ Poster on file at Physio-Control).
- 6 Axelsson C, Karlsson T, Axelsson ÅB, et al. Mechanical active compression-decompression cardiopulmonary resuscitation (ACDCPR) versus manual CPR according to pressure of end tidal carbon dioxide (PETCO2) during CPR in out-of-hospital cardiac arrest (OHCA). *Resuscitation*. 2009;80(10):1099-103.
- 7 Putzer G, Braun P, Zimmerman A, et al. LUCAS compared to manual cardiopulmonary resuscitation is more effective during helicopter rescue – a prospective, randomized, cross-over manikin study. *Am J Emerg Med*. 2013 Feb;31(2):384-9.
- 8 Gyory R, Buchle S, Rodgers D, et al. The efficacy of LUCAS in prehospital cardiac arrest scenarios: A crossover mannequin study. *West J Emerg Med*. 2017;18(3):437-445.
- 9 Wyss CA, Fox J, Franzeck F, et al. Mechanical versus manual chest compression during CPR in a cardiac catheterisation setting. *Cardiovascular Medicine*. 2010;13(3):92-96 (<http://www.cardiovascular-medicine.ch/pdf/2010/2010-03/2010-03-005.PDF>).
- 10 Olasveengen TM, Wik L, Steen PA. Quality of cardiopulmonary resuscitation before and during transport in out-of-hospital cardiac arrest. *Resuscitation*. 2008;76(2):185-90.
- 11 Maule Y. The aid of mechanical CPR; better compressions, but more importantly – more compressions... (translated from French language; Assistance Cardiaque Externe; Masser mieux, mais surtout masser plus...). *Urgence Pratique*. 2011;106:47-48.

**The LUCAS 3 device is for use as an adjunct to manual CPR when effective manual CPR is not possible (e.g., transport, extended CPR, fatigue, insufficient personnel).**

**Physio-Control is now part of Stryker.**

**For further information please contact your local Stryker or Physio-Control representative or visit our website at [www.physio-control.com](http://www.physio-control.com)**

#### Physio-Control Headquarters

11811 Willows Road NE  
Redmond, WA 98052  
[www.physio-control.com](http://www.physio-control.com)

#### Customer Support

P. O. Box 97006  
Redmond, WA 98073  
Toll free 800 442 1142  
Fax 800 426 8049

#### Physio-Control Canada

Physio-Control Canada Sales, Ltd.  
45 Innovation Drive  
Hamilton, ON  
L9H 7L8  
Canada  
Toll free 800 895 5896  
Fax 866 430 6115



Jolife AB, Scheelevägen 17, Ideon Science Park, SE-223 70 LUND, Sweden