

# Eliminate the mattress effect

When a resuscitation is called, you rely on your equipment and training to provide the best possible patient care. You know CPR, and the force required to compress the chest at least 5cm, but how much of that force is actually going to the patient? Compression of the mattress, instead of the chest wall, can lead to an unrecognised decline in CPR quality. This is called the “mattress effect”.

The European Resuscitation Council states:<sup>1</sup>

“High-quality CPR remains essential to improving outcomes.”

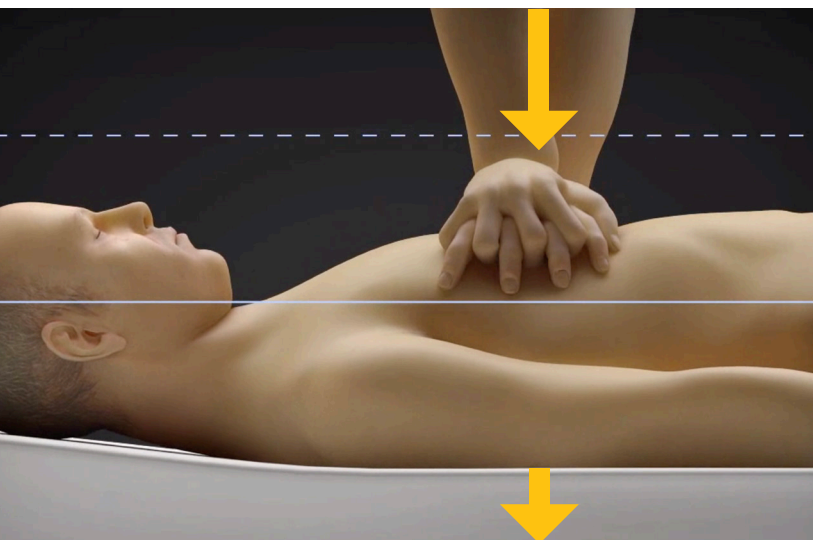
## The Guidelines<sup>1</sup>

- Minimise pauses
- 50/50 duty cycle
- Depth: 5cm–6cm
- Full-chest recoil
- Rate: 100–120 bpm
- Avoid excessive ventilation

**35-40%**

of total compression depth is accounted for by mattress compression during manual CPR.<sup>2</sup>

CPR quality is adversely affected when performed on a mattress, regardless of mattress type and whether or not a backboard is placed under the patient, rendering accelerometer based feedback ineffective.<sup>2,3,4</sup>



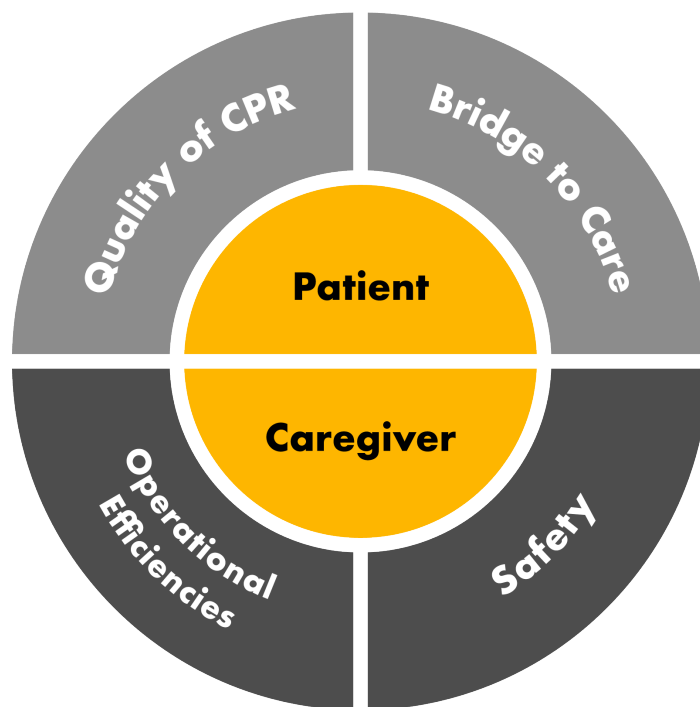
## The Answer

LUCAS<sup>®</sup> 3, v3.1 chest compression system

The LUCAS device provides high-quality, Guidelines-consistent compressions, helping eliminate the mattress effect.



# LUCAS addresses more than CPR quality



The LUCAS chest compression system helps emergency care teams do what they do best — save lives. Knowing that high-quality chest compressions are constantly being administered, caregivers can focus on other life-saving interventions and avoid body strain injuries during extended resuscitations. From the field to the Cath Lab, LUCAS is your partner in life support, providing high-quality Guidelines-consistent compressions in any environment for as long as needed.\*

\*See LUCAS Instructions For Use for details on environmental and operational specifications.

1. European Resuscitation Council Guidelines for Resuscitation 2015, Resuscitation. 2015;95:2
2. Perkins G, Kocierz L, Smith S, et al. Compression feedback devices over estimate chest compression depth when performed on a bed. *Resuscitation*. 2009; 80:79-82
3. Perkins G, Benny R, Giles S, et al. Do different mattresses affect the quality of cardiopulmonary resuscitation? *Intensive Care Medicine*. 2003; 29(12):2330-2335
4. Jolife AB internal test report on file FAD20181012-1

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

Stryker European  
Operations B.V.  
Herikerbergweg 110  
1101 CM Amsterdam  
Netherlands  
Tel +31 (0)43 3620008  
Fax +31 (0)43 3632001

**Distributed by:**

Stryker UK Ltd  
Stryker House  
Hambridge Road  
Newbury, Berkshire  
RG14 5AW  
United Kingdom