

# Student Project PDF






Nicolò Vincenzi



Pierre Brand



**“Early, high-quality CPR  
and prompt defibrillation  
are the most important  
interventions associated  
with improved outcomes  
in adult cardiac arrest.”**

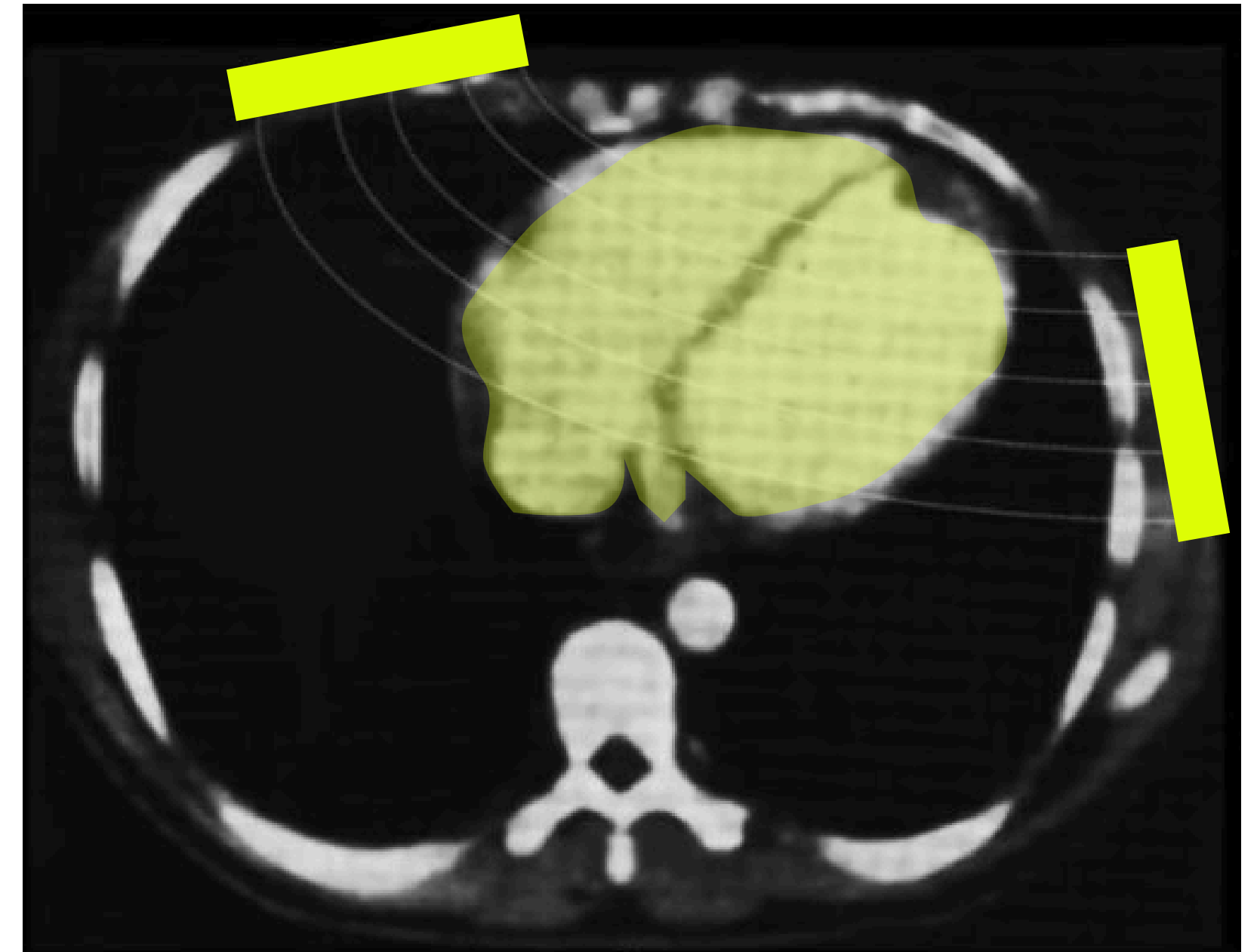
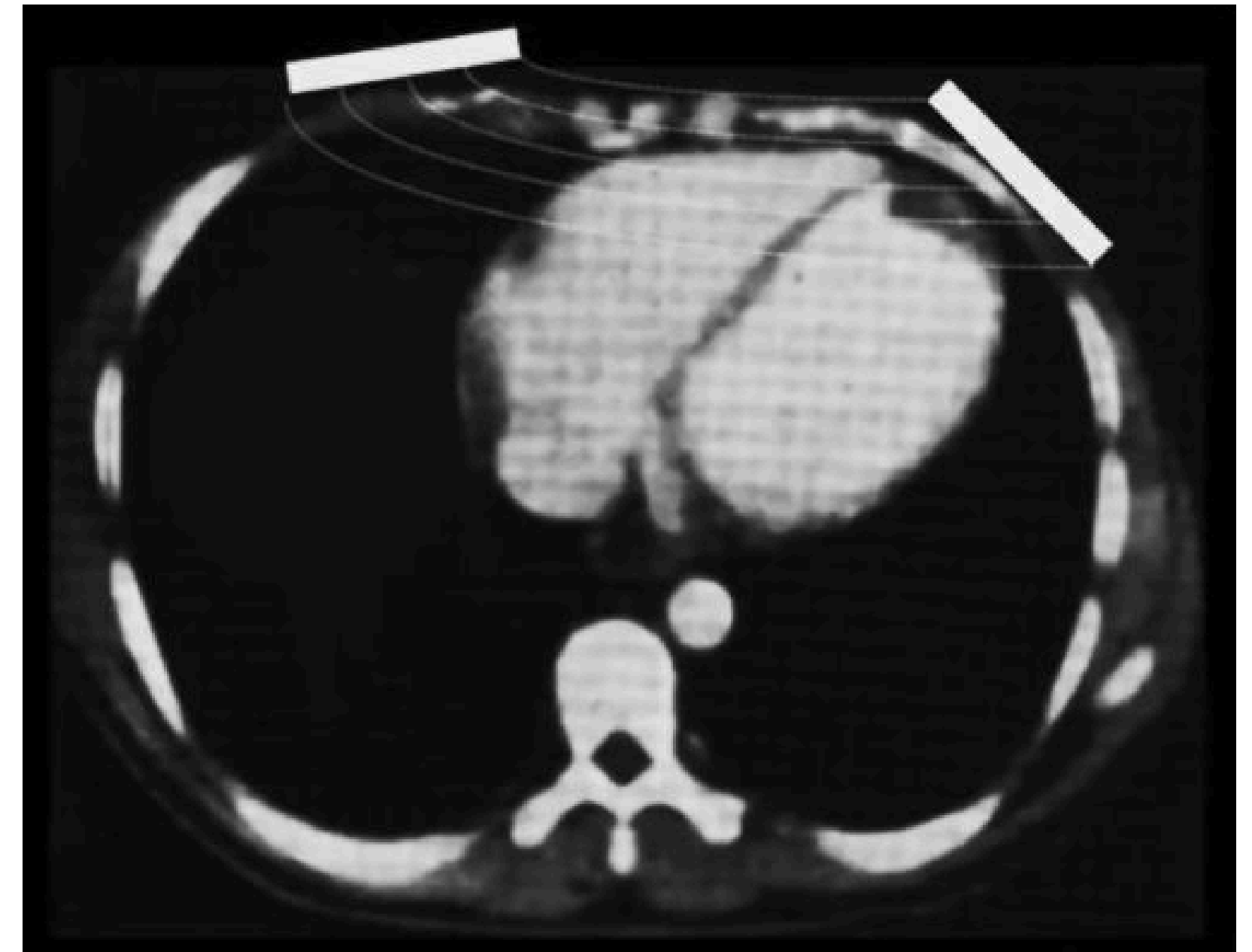
AHA Adult BLS Guidelines.

# How might we maximize shock effectiveness?

Compression x Defibrillation

**The 'Right' shock must stun at least 95% of the heart. This requires a specific electrical lane through the ventricles to ensure actual current, not just energy, reaches the tissue.**

It is therefore essential to increase the likelihood of finding the right path for the shock as quickly as possible to improve patient survival.

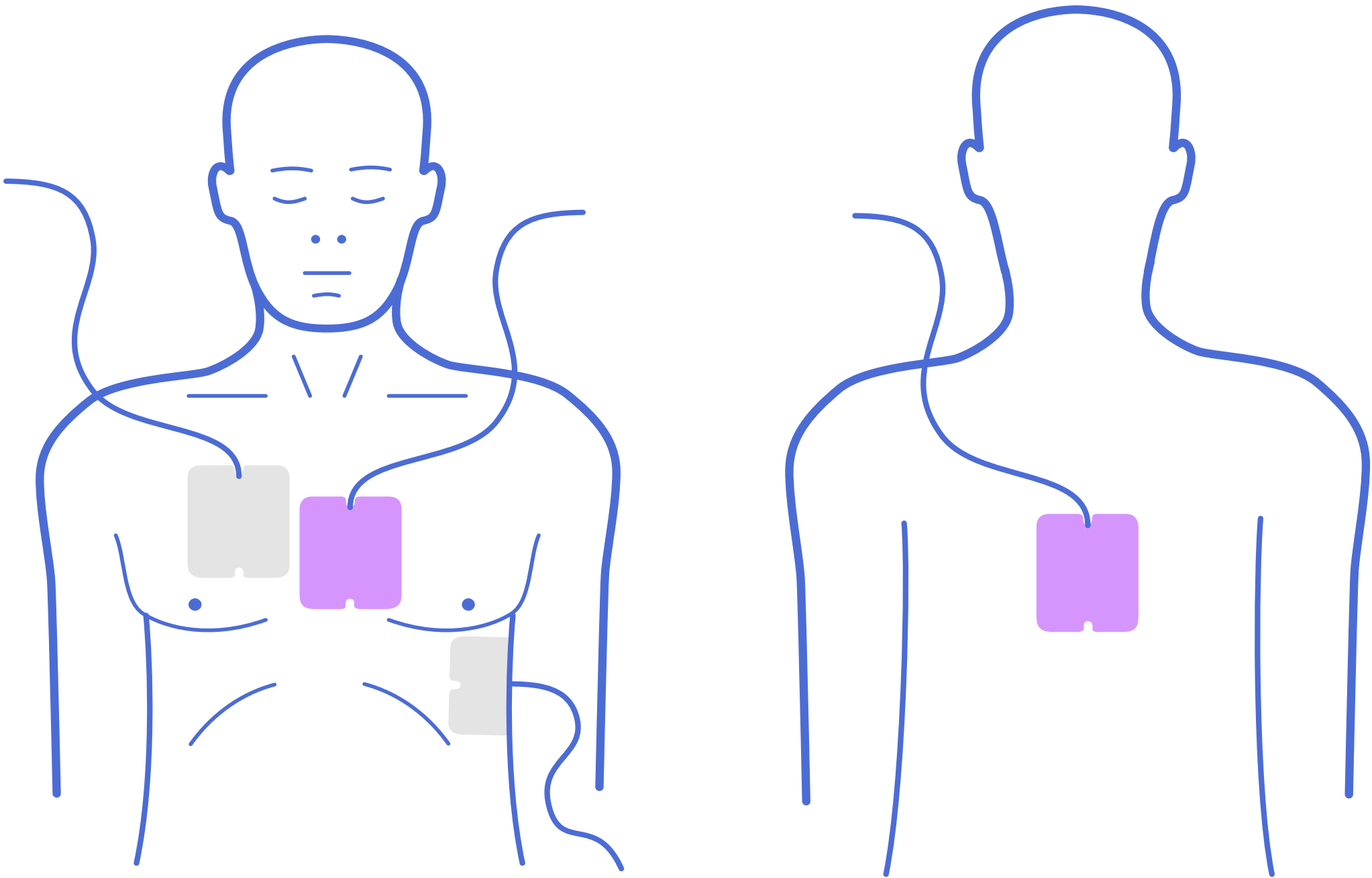


**“The latest evidence says that if AL is two times unsuccessful we should then try to change to VC”**

Paramedic Umeå

**~2.3x**

higher survival with DSED vs standard in "stubborn" heart rhythm



# “We would need to move the patient to access the back.”

Paramedic Umeå

Conducting DSED is very difficult in the field and results in interruptions to chest compressions. It also means that we would need a second defibrillator.






# “Minimizing interruptions in chest compressions is essential, but there will always be interruptions when setting up ACM”

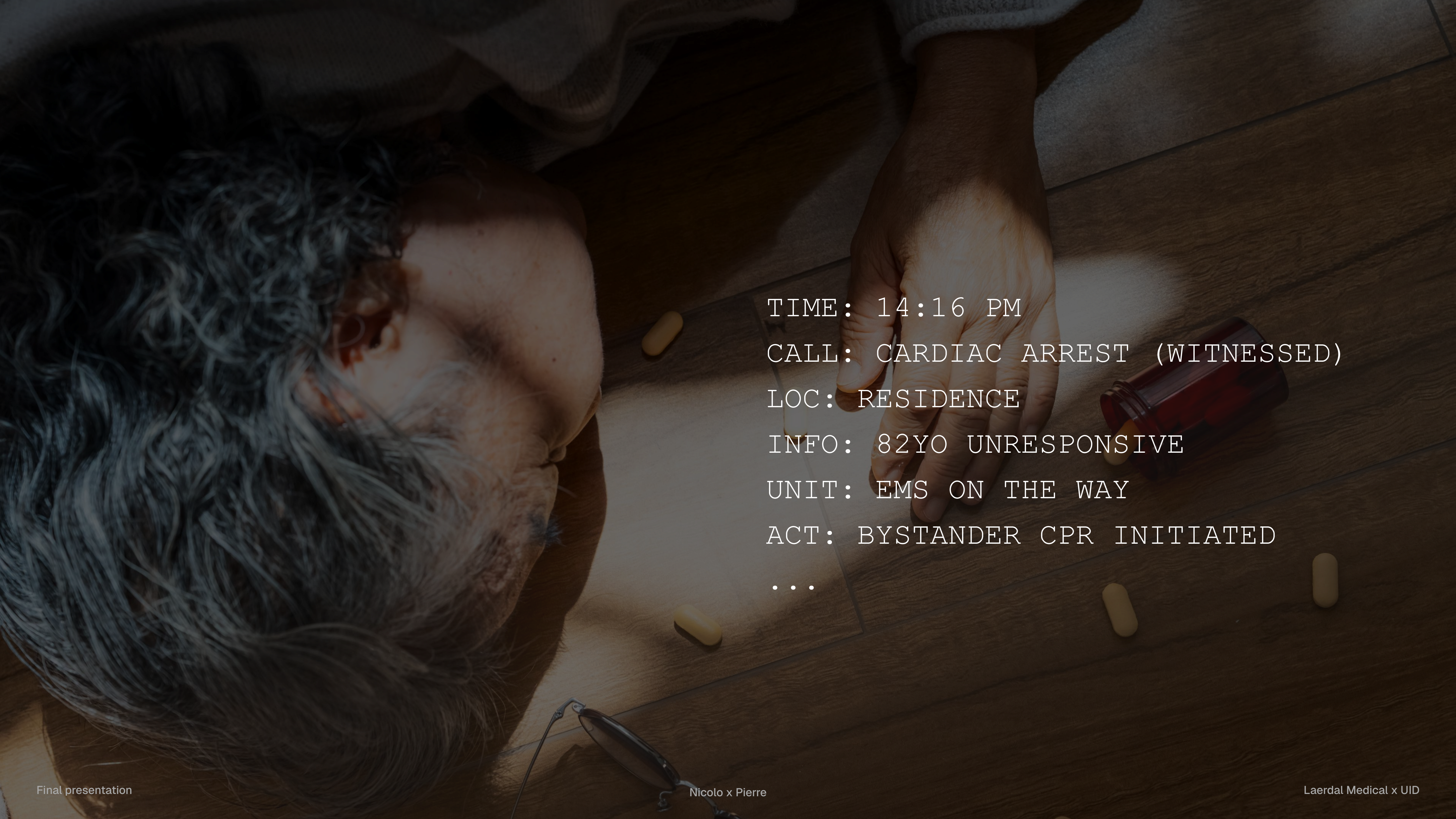
Especially when setting up the backboard, the patient needs to be moved, or the device needs to be moved under the patient. This is also true when fixing the ACM. The time spent unpacking and getting the ACM ready to apply takes crucial time away



# Competitors setting up time

		Weight of the ACD	Time to setup	Full interruptions	Readjust ACM
Lucas 3		10 kg	10 s	~15 s	10 s
Corpuls CPR		12 kg	12 s	~15 s	4 s
Schiller		7 kg	12 s	~20 s	> 10 s

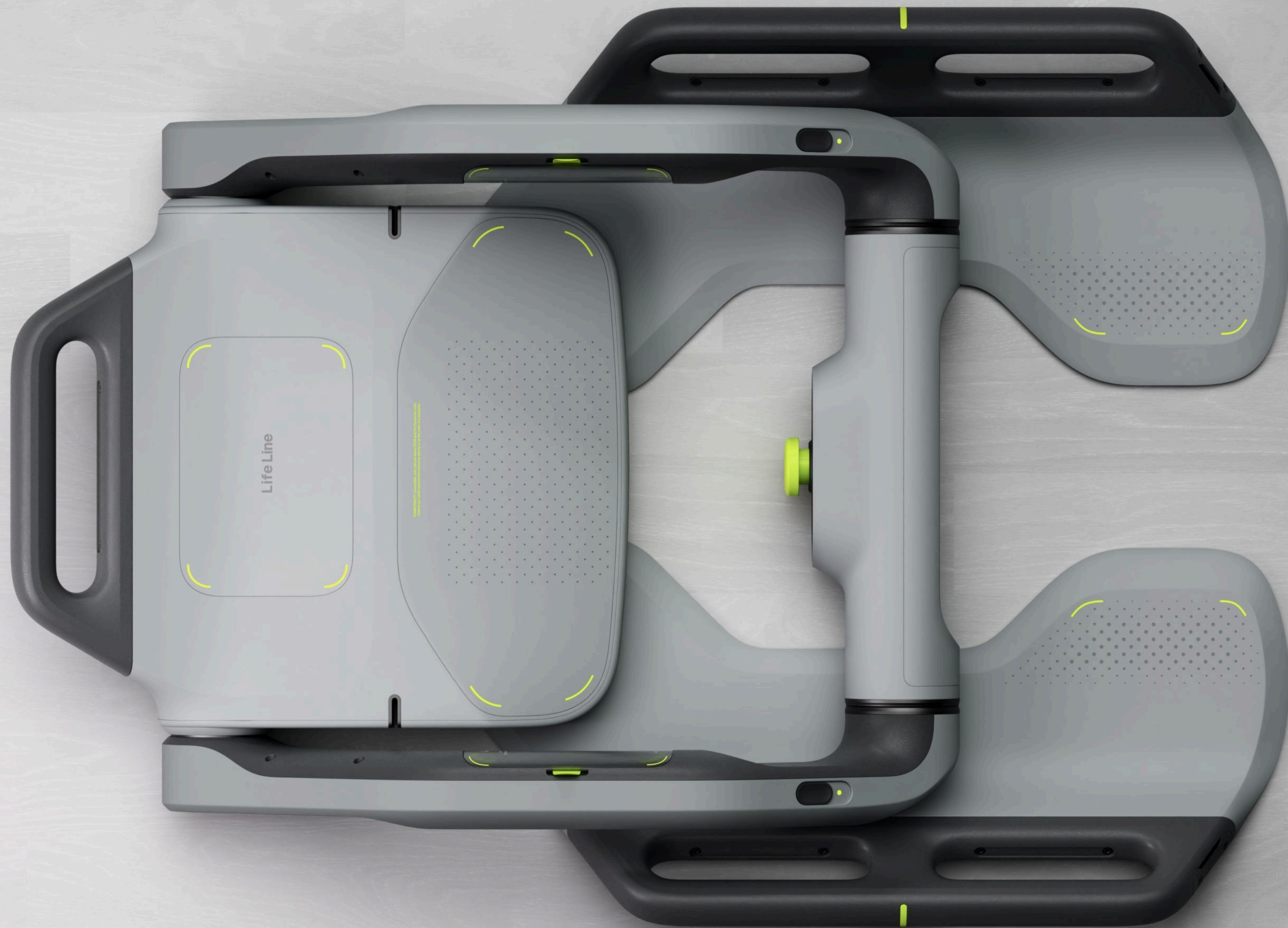




TIME: 14:16 PM  
CALL: CARDIAC ARREST (WITNESSED)  
LOC: RESIDENCE  
INFO: 82YO UNRESPONSIVE  
UNIT: EMS ON THE WAY  
ACT: BYSTANDER CPR INITIATED  
...







Life Line







Final presentation

Nicolo x Pierre



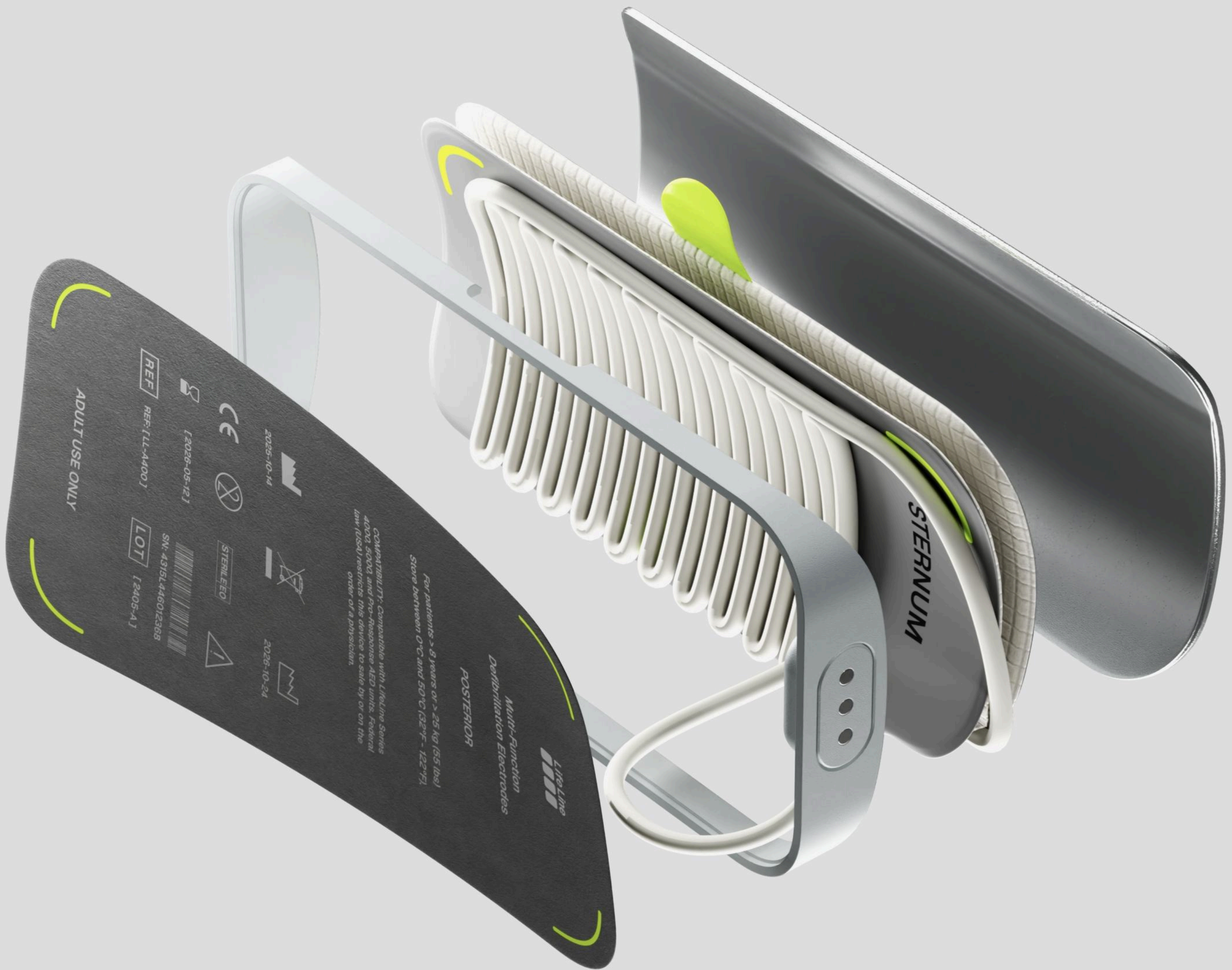
Laerdal Medical x UID







**Integrated sterile  
storage for rapid  
deployment**



LifeLine  
Multi-Function  
Defibrillation Electrodes

POSTERIOR

For patients > 8 years or > 25 kg (55 lbs)  
Store between 0°C and 50°C (32°F - 122°F)  
Compatible with LifeLine Series  
4000 Series and Pro-Resuscitate 4ED units. Federal  
law (USA) restricts this device to sale by or on the  
order of a physician.

2026-10-14

CE

[2026-05-12]

REF [1L-4400]

2026-10-24

STERILE ECG

S/N: 4315L446012388

LOT [2405-A]

ADULT USE ONLY













46 s

Rhythm Check in

Depth 8.0 cm

30

10

30

ADULTUS







Control panel with a central screen displaying a diagram of a human head and neck. The screen shows two yellow bars labeled '100%' and a central diagram with yellow highlights. To the left of the screen are two circular buttons with '30' and '10' inside. To the right are two circular buttons with play and pause symbols. The panel is silver and black.



**CRITICAL CARE  
DOCTOR**

**CRITICAL CARE  
DOCTOR**

# Overview of essential information's











PARAMEDIC  
Clare Mitchell

PARAMEDIC  
Clare Mitchell

LIFELINE

LIFELINE

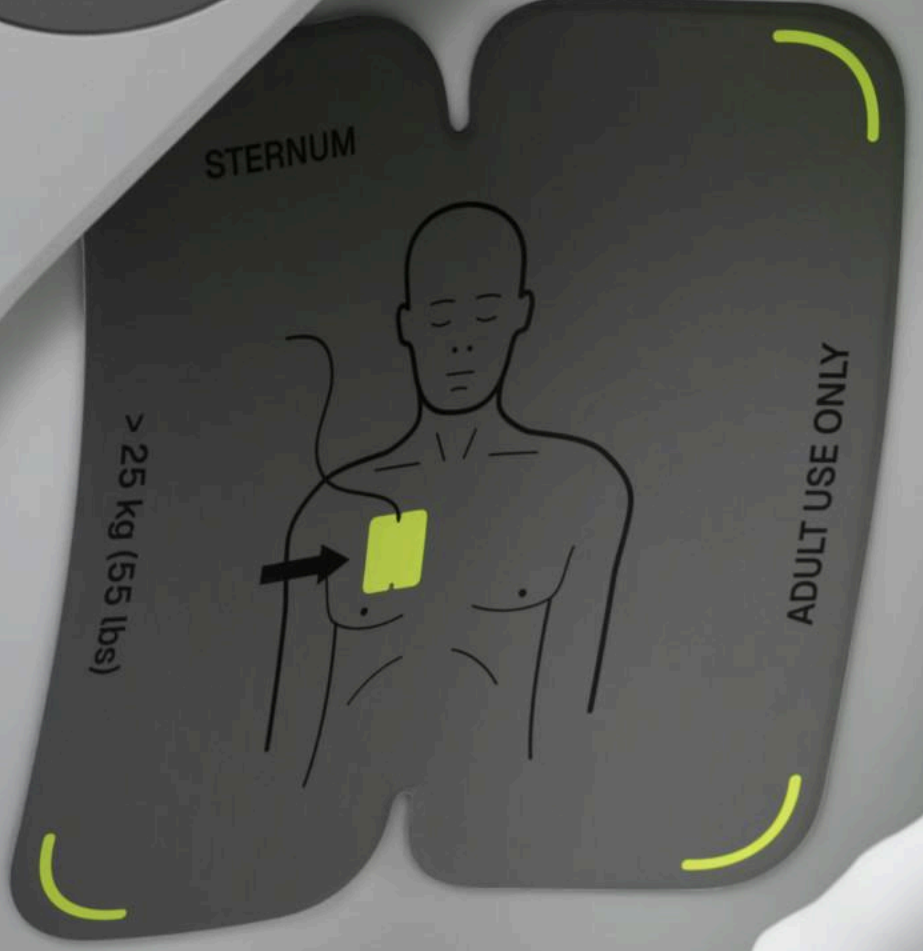




Life Line  
Multi-Function  
Purification Electrodes  
ADULT USE ONLY

ADULT USE ONLY

ADULT USE ONLY



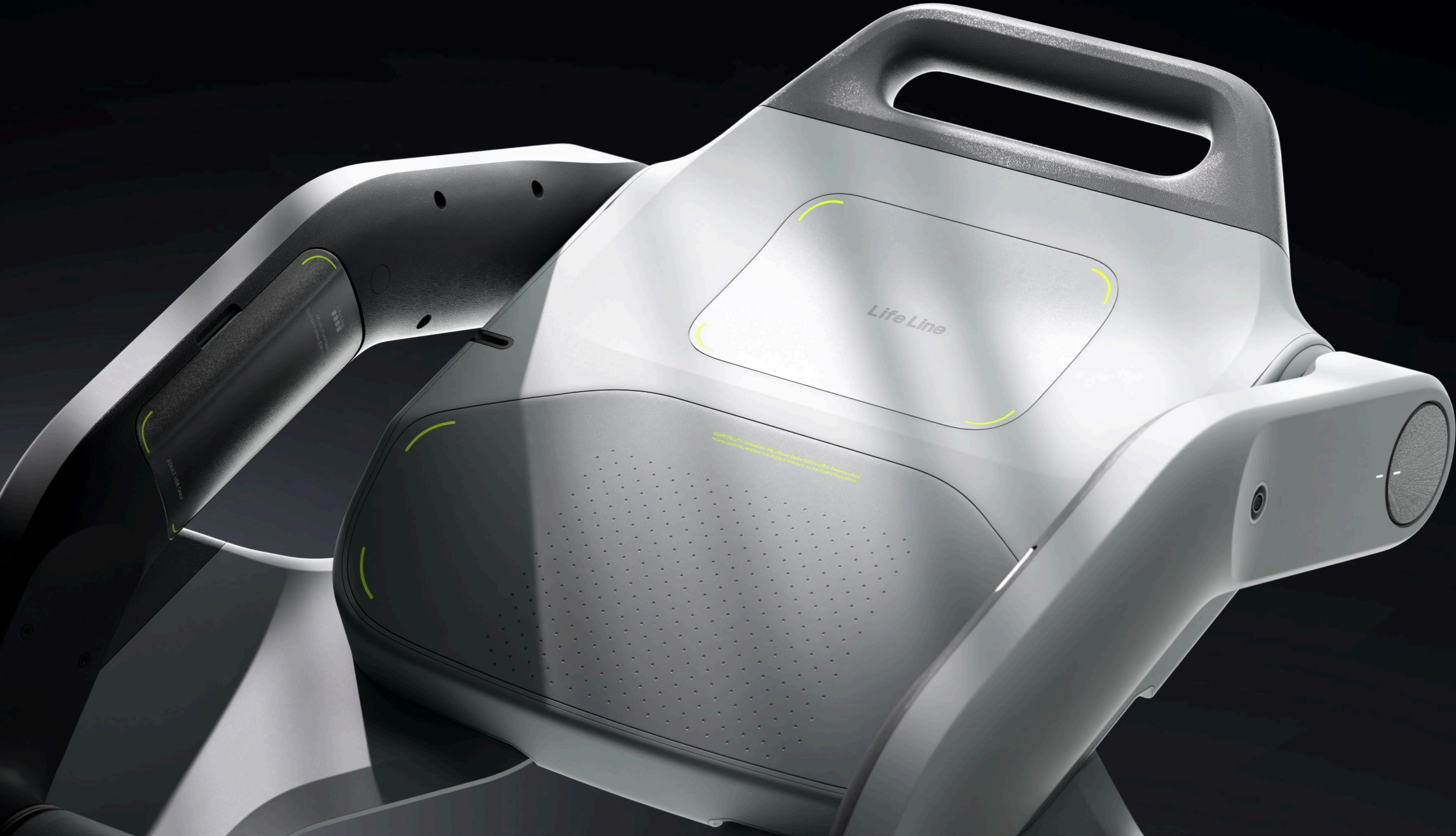
LIFELINE







Designed for Rapid Sterilization



LifeLine

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UR  
UR10  
UR10E  
UR10S  
UR10S+



