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Initial Situation

3 sets of Cardio First Angel 2.0 devices were sent to Innosonian Europe for examination

Test Devices

Inotech Kunststofftechnik GmbH: Cardio First Angel 2.0
Brayden: Brayden Pro Manikin (IM16-R)

Test Person

Dr. Jonathan Smart, Global Product Development Director, Innosonian Europe

Test Date

25.11.2021

Review

Dr. Smart received 3 sets of Cardio First Angel 2.0 devices. He tested each device on a Brayden Pro (IM16-R) manikin connected to Brayden Online App (iOS iPad).
He tested each of the devices in turn (doing 60 chest compressions each time)
and below.
Dr. Smart followed the instructions provided in the protective box.
During the compressions he listened for the two clicks from the device without looking at the real time feedback from the Brayden Pro Manikin and App – meaning, just guided by the 2 clicks of the Cardio First Angel 2.0 device.

Even without following the rhythm of the clicks (faster and slower) as recommended the depth-pressure relationship of the Cardio First Angel 2.0 devices have been achieved and are according to ERC requirements.
Therefore, Innosonian states that their Brayden Pro Manikin (IM16-R) needs about 40 kg of elastic force to achieve 5 - 6 cm (from the Tomlinson et al paper / but also ERC Guidelines 2021)

Summary

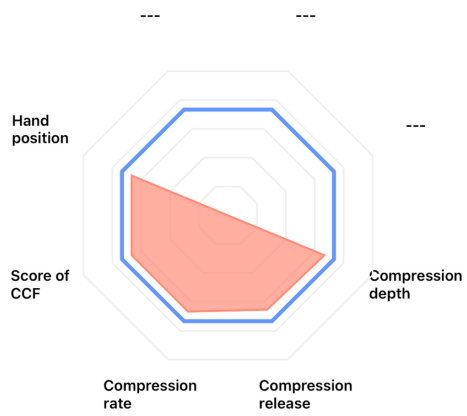
All tested Cardio First Angel 2.0 devices reached out the recommended depth of chest deformation which is required in ERC guidelines 2021.

Attachments

3 Screenshots Measurement recording of the Brayden Pro Online App from the iPad- showing a summary spider chart, mean data and percentages for each device.

Overall

Score **100**



• Chest compression performance is very good

Detailed results

Summary	By CPR metric criteria	By Cycle

Overall Performance

Duration 0:00:30		Cycle	CCF 100 %
Compressions			
Avg. Depth 5.4 cm		Count 60	Avg. Time-off 0 sec
Avg. Rate 109 / min		Hand position accuracy 100 %	
Ventilations	Avg. Volume -- ml	Total -- times	Avg. Speed -- sec

More information (quality of CPR) is available via 'Brayden Online Expert'

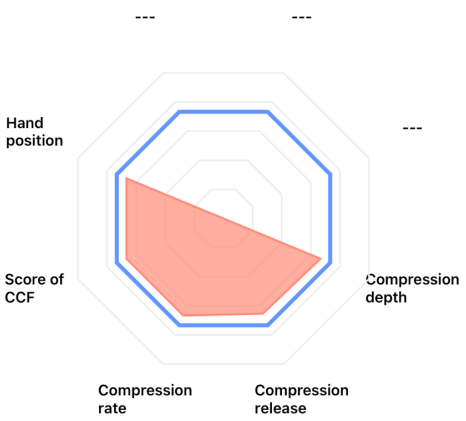
Detailed results

Summary	By CPR metric criteria	By Cycle

1 Compression depth	Too Shallow	0 %	Good	100 %	Too deep	0 %
2 Compression release	Incomplete release	2 %	Good	98 %		
3 Compression rate	Too slow	0 %	Good	100 %	Too fast	0 %
4 Score of CCF				100		
5 No. of compressions	Too few	%	Good	%	Too many	%
6 Hand position	Incorrect	0 %	Good	100 %		
7 Ventilation volume	Too Little	%	Good	%	Too Much	%
8 Ventilation frequency	Too slow	%	Good	%	Too fast	%

Overall

Score **100**



• Chest compression performance is very good

Detailed results

Summary | By CPR metric criteria | By Cycle

Overall Performance

Duration	Cycle	CCF
0:00:29		100 %

Compressions

Avg. Depth	Count	Avg. Time-off
5.5 cm	60	0 sec

Avg. Rate	Hand position accuracy
112 / min	100 %

Ventilations

Avg. Volume	Total	Avg. Speed
-- ml	-- times	-- sec

More information (quality of CPR) is available via 'Brayden Online Expert'

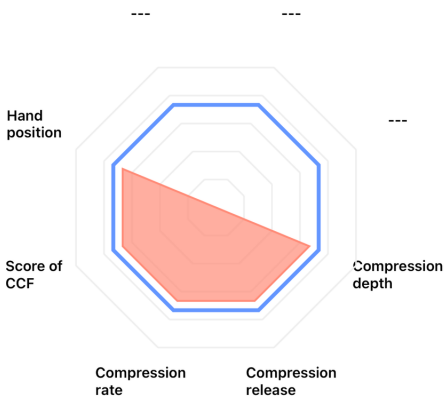
Detailed results

Summary | By CPR metric criteria | By Cycle

1 Compression depth	Too Shallow	2 %	Good	98 %	Too deep	0 %
2 Compression release	Incomplete release	2 %	Good	98 %		
3 Compression rate	Too slow	0 %	Good	100 %	Too fast	0 %
4 Score of CCF				100		
5 No. of compressions	Too few	%	Good	%	Too many	%
6 Hand position	Incorrect	0 %	Good	100 %		
7 Ventilation volume	Too Little	%	Good	%	Too Much	%
8 Ventilation frequency	Too slow	%	Good	%	Too fast	%

Overall

Score **100**



• Chest compression performance is very good

Detailed results

Summary	By CPR metric criteria	By Cycle

Overall Performance

Duration 0:00:28		Cycle	CCF 100 %
Compressions			
Avg. Depth 5.4 cm		Count 60	Avg. Time-off 0 sec
Avg. Rate 113 / min		Hand position accuracy 100 %	
Ventilations	Avg. Volume -- ml	Total -- times	Avg. Speed -- sec

More information (quality of CPR) is available via 'Brayden Online Expert'

Detailed results

Summary	By CPR metric criteria	By Cycle

1 Compression depth	Too Shallow	2 %	Good	98 %	Too deep	0 %
2 Compression release	Incomplete release	0 %	Good	100 %		
3 Compression rate	Too slow	0 %	Good	98 %	Too fast	2 %
4 Score of CCF				100		
5 No. of compressions	Too few	%	Good	%	Too many	%
6 Hand position	Incorrect	0 %	Good	100 %		
7 Ventilation volume	Too Little	%	Good	%	Too Much	%
8 Ventilation frequency	Too slow	%	Good	%	Too fast	%