



CARDIAC ARREST FOCUSED ECHO

BY HANNAH LATTA





A man with a beard and mustache is shown from the chest up, wearing a dark blue t-shirt. He is blindfolded with a white paper strip across his eyes. The strip has the text "PULSELESS ELECTRICAL ACTIVITY" printed on it in a bold, dark blue, sans-serif font. The background is a solid, muted teal color.

**PULSELESS
ELECTRICAL
ACTIVITY**

FATE (2004)

Rapid Cardiac US (2005)

FEER/FEEL (2007)

CAUSE (2008)

mFEER (2010)

PEA (2010)

SESAME (2015)



PUCA (2017)

CORE (2017)

CASA (2018)

Shoc-ED (2019)



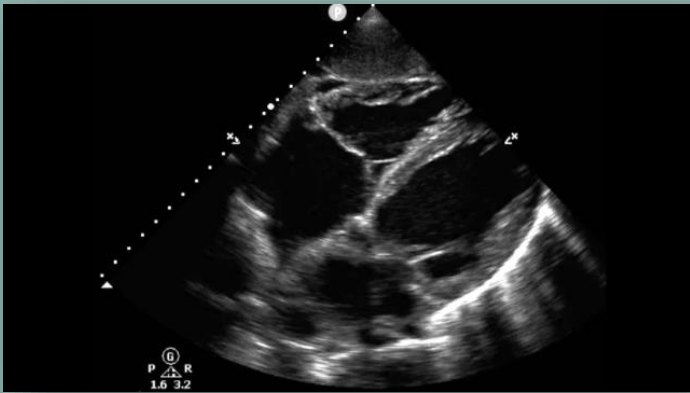
POCUS-CA (2021)

PECA (2022)





What are the benefits?



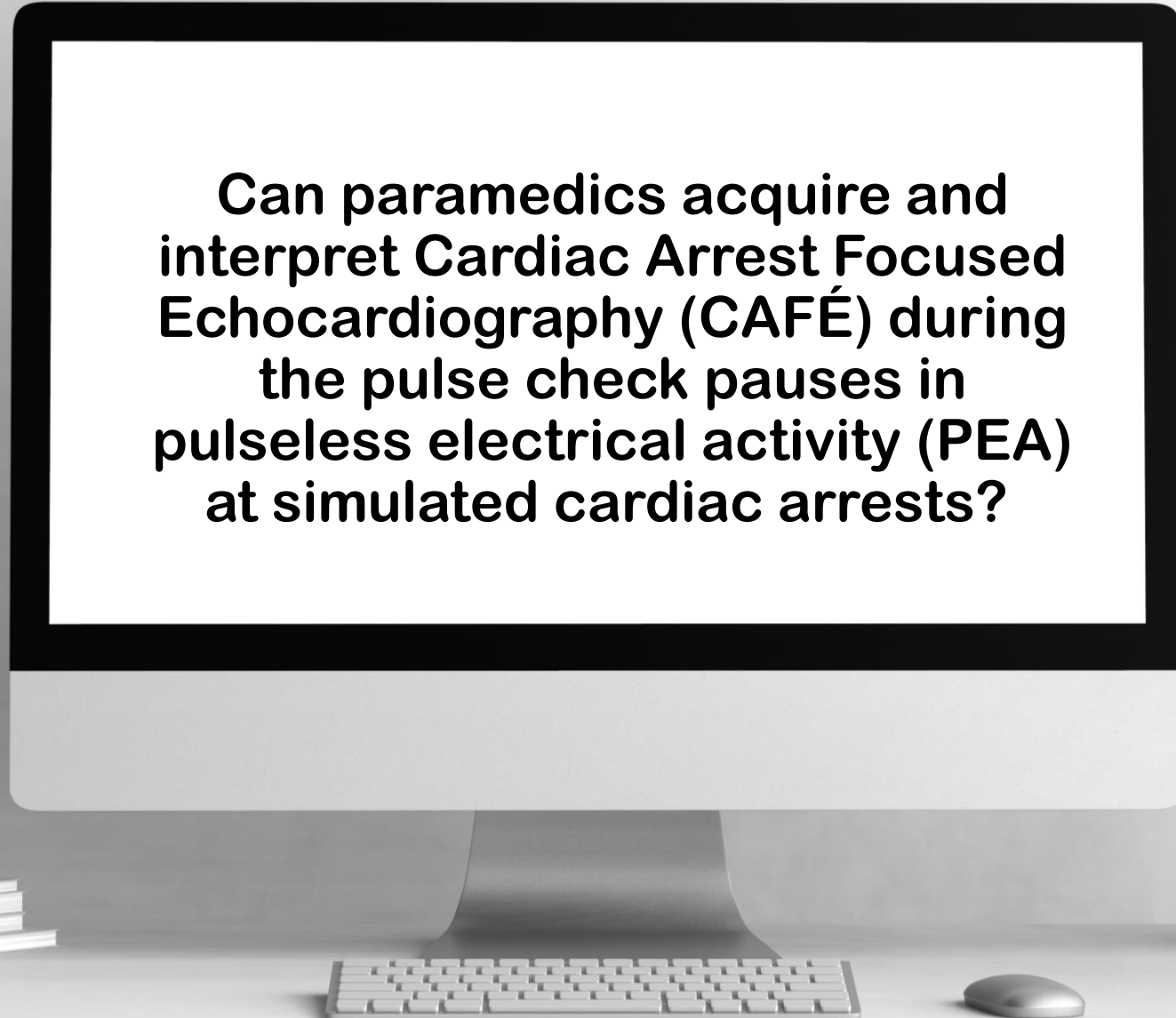
Differentiation



Reversible Causes

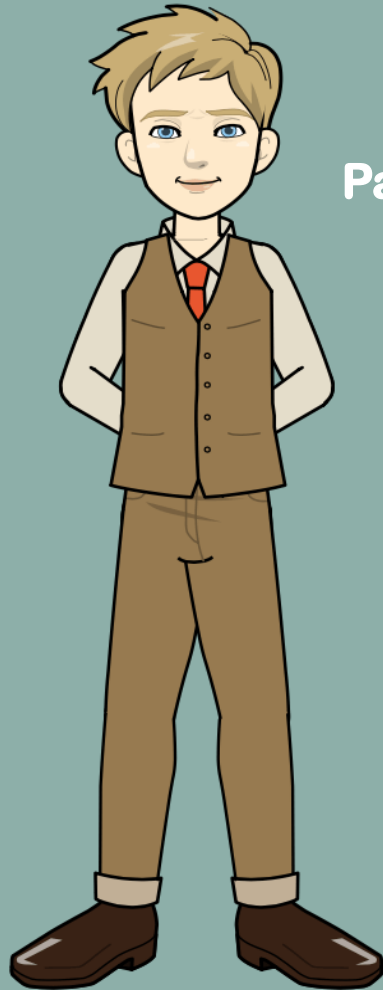


Can paramedics acquire and interpret Cardiac Arrest Focused Echocardiography (CAFÉ) during the pulse check pauses in pulseless electrical activity (PEA) at simulated cardiac arrests?



CAFE Exam Simulation





n=30
Study
Participant



n=25
Study
Volunteers



n=10
Assessors

PHASE II

PHASE I

PHASE III



Canvas eLearning Platform



Ultrasound Intro

15-minutes



How to use the Ultrasound Device

14-minutes



Cardiac Ultrasound Sonographic Views

12-minutes



Cardiac Arrest PEA

30-minutes



Cardiac Arrest Ultrasound Integration

27-minutes



Māori and Cardiac Arrest

11-minutes



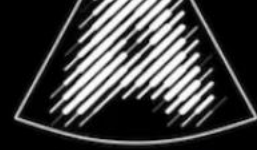
PHASE II

PHASE I

PHASE III





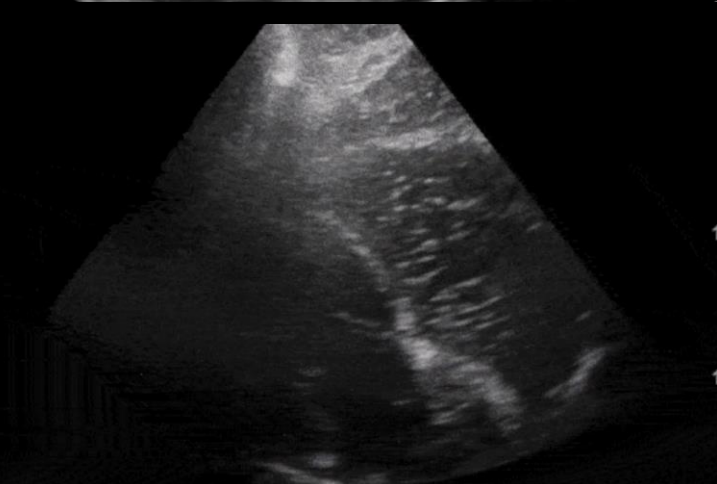
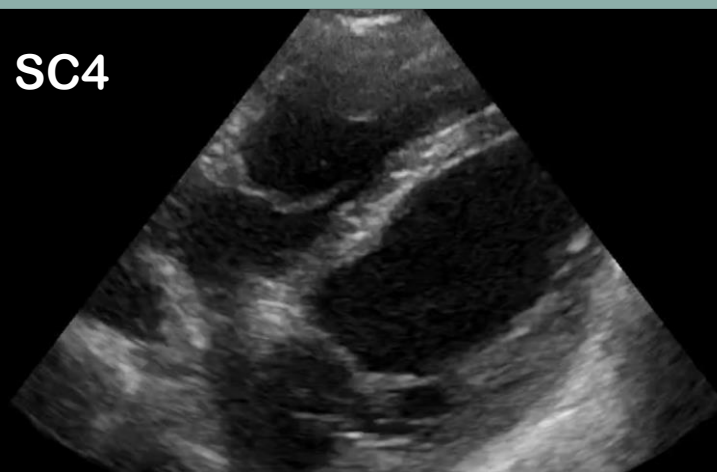


TAP ON SCREEN

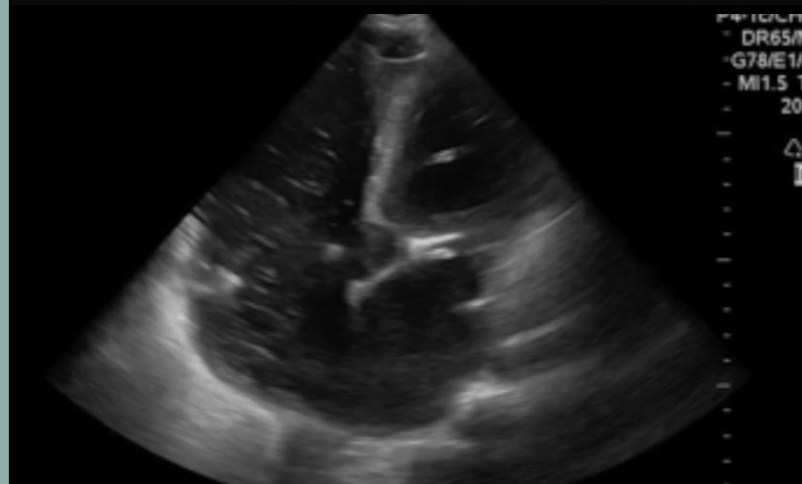
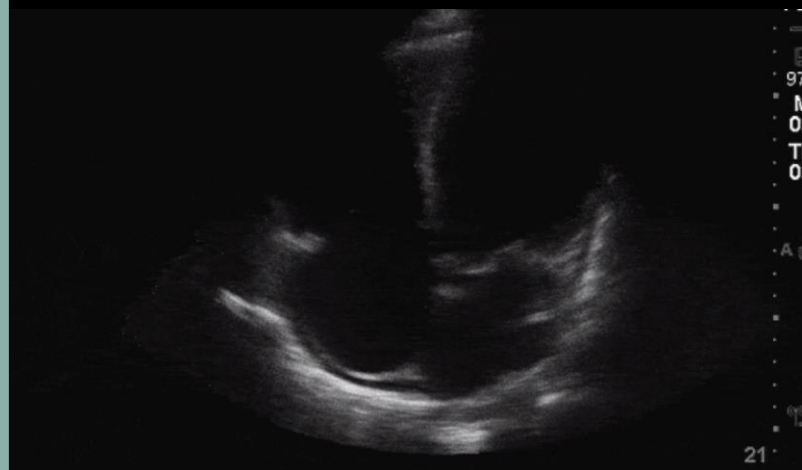


FOR IVC

SC4



A4C



PLAX



Fluid Function

CAFE Exam Report



Study Participant ID Number: _____

Completed during the 2-minute CPR cycle

	View (circle)	Fluid (circle)	Function (circle)
Scan 1	SubX A4 C PLAX None	Pericardial Effusion? Yes No ↓ *Tamponade? (circle) Yes No *Evidence of R) ventricular collapse in diastole (ventricular valves open)	None Weak Vigorous ↓ Valves opening? (circle) Yes No Assess L) ventricular wall for thickening, cavity squeeze and forward flow of blood
Scan 2	SubX A4 C	Pericardial Effusion? Yes No ↓	None Weak Vigorous ↓

PHASE II

PHASE I

PHASE III

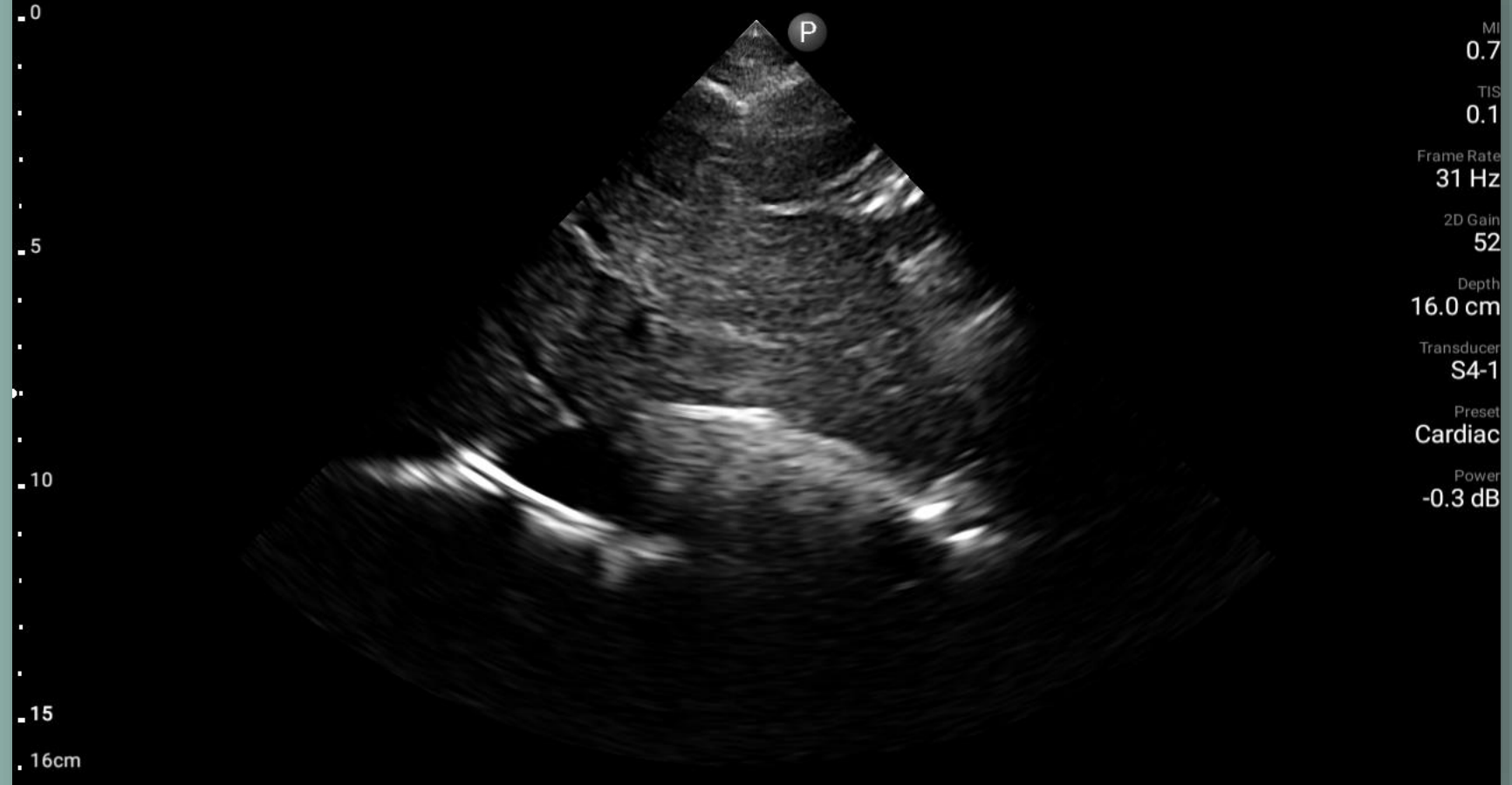


BIG QUESTIONS



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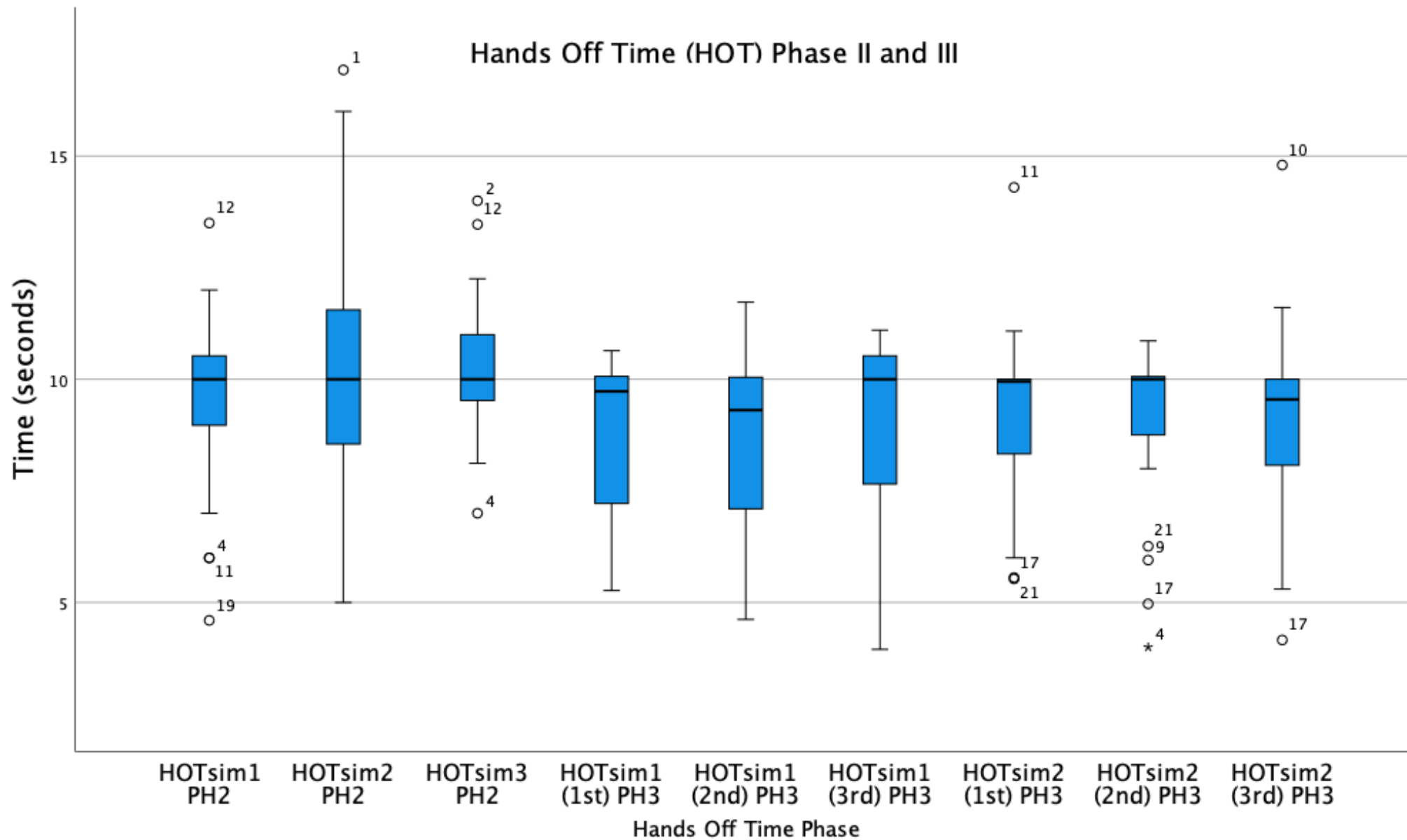
27/5/2022 14:40:48



Hands Off Time (HOT seconds)

Frequencies	HOT PH2 (sim1)	HOT PH2 (sim2)	HOT PH2 (sim3)	Mean Overall
Mean	10.2	11.7	11.00	10.9
Minimum	4.6	5.0	7.0	
Maximum	22.6	27.7	20.0	
Std. Deviation	3.16	4.90	2.87	

Frequencies	HOT PH3 (sim1)	HOT PH3 (sim1)	HOT PH3 (sim1)	HOT PH3 (sim2)	HOT PH3 (sim2)	HOT PH3 (sim2)	Mean Overall
Mean	8.9	8.8	8.8	9.0	8.9	8.9	8.8
Minimum	5.27	4.62	3.95	5.0	4.0	4.16	
Maximum	10.6	11.7	11.1	14.3	10.8	14.8	
Std. Deviation	1.69	1.84	2.25	2.07	1.85	2.11	



Knowledge Quiz (12 questions)

	Phase II n=29	Phase III n=26
Mean	9.2/12	10.5/12
Std. Deviation	2.44	1.49

CUSAS Scale Phase II Simulations

N	Minimum	Maximum	Mean	Std. Deviation
42	1	6	3.35	1.44

Cardiac Ultrasound Structural Assessment Scale (CUSAS)

No myocardium visualized (1)

Myocardium visualized (2)

Partial ventricle visualized (3)

Multiple partial chambers visualized (including at least one ventricle) (4)

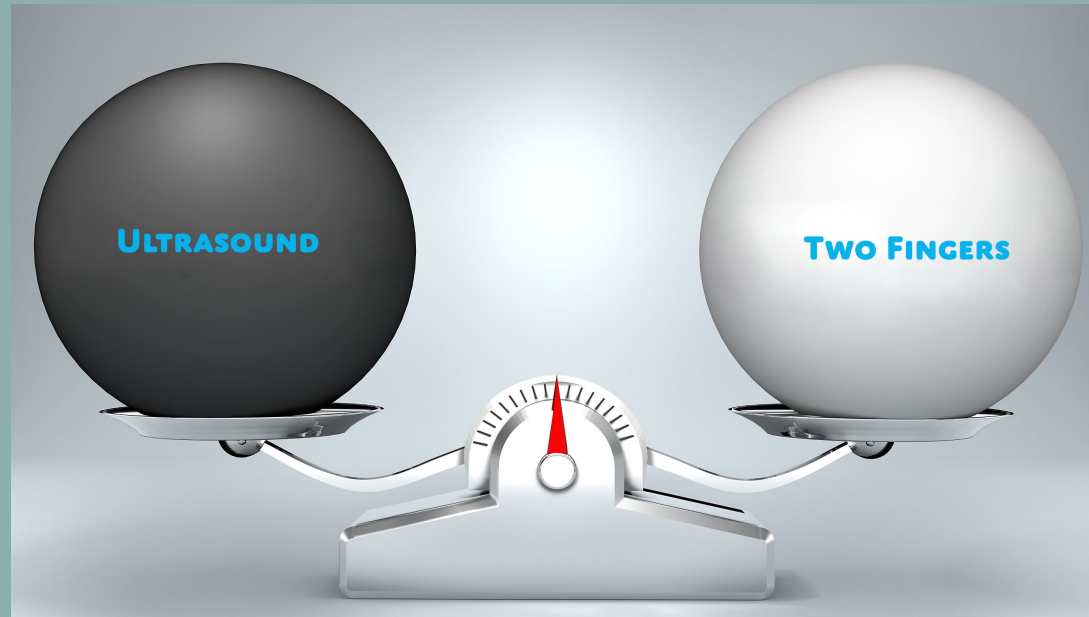
Full ventricle visualized (5)

Multiple full chambers visualized (including at least one ventricle) (6)

Score: _____

CUSAS Score of ≥ 3 (Y/N). If yes progresses to function and filling assessment

How does ultrasound influence practice change?





Thank you

Study participants, volunteers and faculty Staff
Wellington Free Ambulance
Auckland University of Technology
The Life Flight Trust
Heart Foundation
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Dr Andy Swain
Dr Scott Bomann
Celeita Williams
Brendon Harris

