

**REPORT DOCUMENTATION PAGE**

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**59th Medical Wing  
Institutional Animal Care and Use Committee (IACUC)**  
59 Clinical Research Division/SGVUS  
1100 Wilford Hall Loop, Bldg 4430  
Lackland AFB, TX 78236-5300

**NOTICE OF ACTION REGARDING IACUC REVIEW**

**Date: 18 Apr 18**

**TO: Capt Jaqueline Evans/959 IPTS**

Your **Final Report** was reviewed by the WHASC IACUC during the **20 Mar 18** meeting. The Committee's decision is provided below:

**FWH20150085A** "Assessing the hemodynamic effects of when closed chest compressions are augmented by directing the area of maximal compression over the left ventricle in a swine model of pulseless electrical activity (sus scrofa)", **PI: Capt Jaqueline Evans/959 IPTS [PI letter dated: 1 Feb 18] [Received: 1 Feb 18]**

The committee voted that this item be approved as written. **FOLLOW-UP: CLOSED**

**Name of Official**

Elizabeth Prince

**Title/Office Symbol/Phone**

Office of Research Protocol Support /SGVUS/2-210-292-4210

**Signature**

Info Copy To

1. **Protocol Number:** FWH20150085A

2. **Type of Research:** Animal Research

3. **Title:** Assessing the hemodynamic effects of when closed chest compressions are augmented by directing the area of maximal compression over the left ventricle in a swine model of pulseless electrical activity (sus scrofa)

4. **Principal Investigator (PI):**

Name	Rank	Date of IACUC Training	Branch of Service / Corps	Staff Resident Fellow Civilian	Department / Office Symbol	Email (if other than WHASC Outlook)	Phone	Pager
Jacqueline Evans	O-3	July 2015	USAF	Resident	959 IPTS	Jcbenda12@msn.com	WP: 916-0808 Fax: 292-7649	

5. **Purpose:** The purpose of this study is to evaluate how performing chest compressions directly over the left ventricle of the heart affects the quality of CPR during simulated traumatic pulseless electrical activity (PEA) arrest. Quality of CPR will be determined by measuring the CPP during cardiac arrest post hemorrhage while compressions are performed in the traditional location on the chest as compared to compressions that are located directly over the left ventricle as directed by ultrasound.

6. **Results:**

There was an increase in aortic systolic blood pressure (p=0.01), right atrial systolic blood pressure (p<0.01) and right atrial diastolic blood pressure (p=0.02) at the end basic life support (BLS); there were no differences in hemodynamics during advanced life support (ALS). Return of spontaneous circulation (ROSC) was not different between experimental groups (p=0.73)

7. **How may your findings benefit the Air Force?**

Between 2007 and 2014, 589 patients received CPR from the United States Military Health System during Operation Enduring Freedom (OEF), Operation Iraqi Freedom (OIF) and Operation New Dawn (OND). The most common cardiac rhythm during traumatic cardiopulmonary arrest (TCPA) is PEA. The findings of this study indicate that chest compressions over the left ventricle may improve hemodynamics during BLS when patients are in traumatic PEA. Translational study in human subjects is needed to verify that these findings can be reproduced in human TCPA victims.

8. **Number of Animals**

Projected Enrollment of Animals at the Beginning of Study: 36

Actual Number of Animals Enrolled: 57 (20 added via multiple amendments)

9. **Status of Animals Entered into the Protocol:** The animals that entered the study were in general good health.

10. Number of animals since last status report:

	Number enrolled since last report	Total enrollment to date
Number of animals entered into the Study	57	57

\*After reconciliation of numbers, it was found that we went over by 1 animal. See MFR for additional information

11. **Status of Funds:** There were no budget deviations.

12. **Reason for Closure:** The study objectives have been met

**13. Specific Problems:** The biggest problem that we encountered during the study was the animals became hyperkalemic. When we hemorrhaged our animals to a MAP of 15 mmHg over 40-45 minutes we saw trends of hyperkalemia that we hadn't seen in previous hemorrhage studies. We attempted to treat hyperkalemia, when we saw it in the ABG's and pre-emptively. We discussed this issue with Dr. Harris, and decided to try a shorter bleed time, which was successful.

**14. Publications and Presentations:**

**Presentations:**

American Heart Association Scientific Sessions, Anaheim CA, November 11-15, 2017.  
These Presentations and Publications have been cleared by 59 CRD and Public Affairs.

**Publications:** None

These Presentations and Publications have/have not been cleared by 59 CRD and Public Affairs.

**15. Exceptional Achievements:** None

**16. Signature of Principal Investigator:**

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