

July 11, 2013

J. Kevin Dorsey, M.D., Ph.D.
Dean, Southern Illinois University School of Medicine
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Sent via e-mail (kdorsey@siumed.edu) and Fax (217-545-0786)

Dear Dr. Dorsey:

I am writing on behalf of the Physicians Committee for Responsible Medicine and its membership of 10,000 physicians and more than 140,000 other medical professionals, scientists, educators, and lay members. The purpose of this letter is to ask that Southern Illinois University School of Medicine (SIU) replace the use of live animals with validated nonanimal training methods in its emergency medicine residency program.

SIU emergency residency director Christopher McDowell M.D., F.A.M.S., M.Ed., recently requested the use of live pigs to teach residents emergency procedural skills. SIU's emergency medicine residency program has been effectively teaching these same skills with the use of human-based medical simulation and cadavers. Dr. McDowell plans to use live pigs to teach tube thoracostomy and thoracotomy, cricothyroidotomy, and lateral canthotomy.

All emergency medicine procedural skills, including cricothyroidotomy, tube thoracostomy and thoracotomy, and lateral canthotomy, can be taught using nonanimal human-based medical simulation. Simulab's TraumaMan System – a realistic anatomical human body simulator that has lifelike human skin, subcutaneous fat, and muscle – can be used to teach both cricothyroidotomy and thoracostomy, among other procedural skills taught in emergency medicine residency training.¹ The TraumaMan System is approved by the American College of Surgeons for use in Advanced Trauma Life Support courses and is used by the majority of programs to teach skills such as cricothyroidotomy and thoracostomy. While the TraumaMan system is widely used, there are many simulators that can be used in emergency medicine residency training. SynDaver's Deluxe Cric Trainer contains layered artificial skin to provide residents with life-like surgical experience,² while CAE Healthcare's Human Patient Simulator can be used to teach chest tube placement on a breathing patient.³

The use of nonanimal methods is also widely supported by peer-reviewed scientific studies. According to a 2002 study in the *Journal of the American College of Surgeons*, study participants misplaced 30.2 percent of cricothyroidotomies when performing the procedure on live animals compared to only 3.6 percent when using nonanimal methods.⁴ In addition, another 2002 study in *The American Surgeon*

¹ Simulab. TraumaMan System. <http://www.simulab.com/product/surgery/open/traumaman-system>. Accessed June 10, 2013.

² SynDaver. Deluxe Cric Trainer. http://syndaver.com/product_info.php?cPath=86&products_id=454. Accessed June 10, 2013.

³ CAE Healthcare. HPS Brochure. https://caehealthcare.com/home/images/uploads/brochures/HPS_Brochure.pdf. Accessed 5/24/13.

⁴ McCarthy MC, Ranzinger MR, Nolan DJ, Lambert CS, Castillo MH. Accuracy of cricothyroidotomy performed in canine and human cadaver models during surgical skills training. *J Am Coll Surg*. 2002;195:627-629.

concluded that “students found [the TraumaMan System] to be superior to the animal model in teaching surgical airways . . . and the management of pneumothorax”.⁵

More recently, a 2009 report by Pandya and Ali in the *Canadian Journal of Surgery* studied the use of the TraumaMan System and concluded: “The TraumaMan model is an effective alternative for learning the surgical skills.”⁶ Lastly, a 2011 study in *The American Surgeon* concluded that there is “no statistically significant difference in the results obtained from training on live animal models and the TraumaMan to train cricothyroidotomy and tube thoracostomy.”⁷

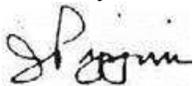
Additionally, lateral canthotomy is widely taught using human cadavers. In fact, SIU currently uses cadavers to teach residents this skill. A 2012 study assessing the effectiveness of lateral canthotomy found that human cadavers are a useful method for evaluating lateral canthotomy.⁸ In this study, a saline solution was injected into the retro-orbital region of the cadaver, similar to the proposed method in the SIU animal use protocol. Workshops held by the University of Maryland School of Medicine and the American College of Emergency Physicians both use cadavers to teach lateral canthotomy to participants.^{9,10} Lastly, emergency medicine educators at New York Methodist Hospital have created an extremely low-cost lateral canthotomy task trainer that can be used to teach four residents per model.¹¹

With the wide availability and implementation of validated nonanimal methods for these procedures, it is clear that the proposed use of pigs to train the procedures in the SIU emergency medicine residency is unnecessary. We doubt that SIU residents have previously been poorly trained in these skills, and we do not believe there is incremental benefit from the addition of live pigs to the program. In fact, we are surprised that this protocol was approved by the IACUC, since the required literature search did not provide a complete review of alternatives, and because compliance with the Animal Welfare Act requires that alternative procedures be identified and failure to use them be justified.

We request that you confer with your emergency medicine faculty to urge withdrawal of this animal-use protocol and a return to the well-accepted nonanimal methods previously employed.

Your reply is greatly appreciated. You can reach me by e-mail, phone, or fax as listed below.

Sincerely,



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⁵ Block EFJ, Lottenberg L, Flint L, Jakobsen J, Liebnitzky D. Use of human patient simulator for the Advanced Trauma Life Support course. *The American Surgeon*. 2002;68(7):648-51.

⁶ Pandya A, Ali J. The role of TraumaMan model in the Advanced Trauma Life Support course. *Can J Surg* 2009 (April);52(suppl):S18 (abstract 10091)

⁷ Hall, AB. Randomized objective comparison of live tissue training versus simulators for emergency procedures. *Am Surg*. 2011 May;77(5):561-5.

⁸ Oester, AE, Fowler, BT, Fleming, JC. Inferior Orbital Septum Release Compared to Lateral Canthotomy and Cantholysis in the Management of Orbital Compartment Syndrome. *Ophthal Plast Reconstr Surg*. 2012 January; 28 (1): 40-43.

⁹ Workshops. University of Maryland School of Medicine. https://umem.org/risk/risk_workshops.php. Accessed June 10, 2013.

¹⁰ Procedural Cadaver Labs. American College of Emergency Physicians. <http://www.acep.org/saContent.aspx?id=86175>. Accessed June 10, 2013.

¹¹ 2010 Innovations in Emergency Medicine Education (IEME). Society for Academic Emergency Medicine. <http://onlinelibrary.wiley.com/doi/10.1111/j.1553-2712.2010.00744.x/pdf>. Accessed June 10, 2013