

Rio Grande Resuscitation: *Navigating the Lucas Device*

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Study: Use Of Phrase 'Don't Skimp On The...' Linked To Heart Disease

DALLAS—According to a study published Monday by the American Heart Association, people who frequently start sentences with the phrase "don't skimp on the" are 40 percent more likely to develop some form of heart disease. "Use of the phrase poses a very serious health risk, especially when the speaker is in close proximity to **mayonnaise**," said Dr. Keith Logsdon, a leading cardiovascular researcher and chief author of the study. "We have also found data suggesting that the seemingly benign utterance 'just a sliver' could be equally detrimental to heart health, particularly when used three to four times in the span of an hour." Since completing the study, Logsdon and his fellow researchers have begun an in-depth exploration of the recent rise in heart attacks and its possible correlation with having watched all episodes of Soul Train when they originally aired.









Lucas Device

- Powered by an air bottle
- 100 compressions per minute
- self regulating
- provides a push-pull cycle
- used in over 9000 cases in Europe



The El Paso Test

- Medtronic provided 4 Lucas Devices to the El Paso Fire Department from October 3 to December 26, 2007 for testing.
- We received a waiver from the TTUHSC-EP IRB, to gather data on the use of the devices, since they were not investigational



The El Paso Test

- We decided to place the devices with first responder units, not ambulances
- We placed the devices with the EPFD units that had made the most cardiac arrest calls during the prior 12 month period
- All personnel on these units were trained in the use of the device



Results

- 8 cardiac arrest calls
- Response time (Tone out – Patient contact)
 - mean 9.25 minutes
 - minimum 4 minute
 - maximum 23 minutes



Results

- Estimated down time
 - mean 9 minutes
 - minimum 5 minutes
 - maximum 15 minutes
 - one unknown



Results

- Witnessed
 - 1 yes
 - 6 no
 - 1 unknown



Results

- Bystander CPR
 - 6 no
 - 2 yes



Results

- Time to Apply the Lucas Device
 - mean 49 seconds
 - minimum 20 seconds
 - maximum 120 seconds



Results

- Time the Lucas Device was used
 - mean 27.5 minutes
 - minimum 15 minutes
 - maximum 47 minutes



Results

- Patients
 - 1 female
 - 7 male
 - Age
 - mean 67 years
 - youngest 35
 - oldest 85



Results

- Patients' Medical History
 - cardiac 3
 - hypertension 3
 - diabetes 3
 - prostate 1
 - CVA 1
 - cholesterolemia 1
 - pneumonia 1
 - unknown 2



Results

- ROSC Prehospital
 - yes 2 (25%)
 - no 6
- Pulse on ED arrival
 - 1 yes (12.5%)
 - 7 no
- Survival to Hospital Discharge
 - 0



Results

- Users Impressions
 - Overall positive
 - “...compressions were consistent depth and rhythm”
 - “...easy deployment, very impressed with compressions”
 - “...in use for approximately 30 minutes without any problem or malfunction”
 - “...system was impressive”



Results

- Users Impressions
 - Opportunities for improvement
 - “Need better position for patient’s hands. Current spot is not good for IV site”
 - “Nearly impossible to ventilate patient with on-going compressions even after intubation”
 - “The screwing and unscrewing of the regulator to the bottle causes rapid wear to the O-ring, making the assembly prone to air leakage”



Results

- Users Impressions
 - Opportunities for improvement
 - “System needs a mechanical counter and a noise suppressor”



Future Directions

- Analyze and Compare Control Group Data
- Re-evaluate the Lucas Device after changes made from our suggestions



