

Patient Has a Fractured Fibula...

....Given a Mild Sedative





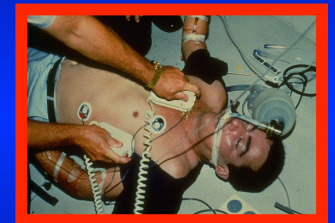
Office of Medical Emergency Services
*for Public Safety, Public Health,
Homeland Security & Related Research*

City Managers Office

It's Basically the Basics !

The Fundamental Benefits of Doing Resuscitation

Resuscitation



Presented by Paul E. Pepe, MD, MPH



Sudden Death Syndrome



...Overall Greatest Cause of Premature Death

Trauma (i.e.. Severe Injury)



#1 Killer of Adults < 45 years old

...and, More Importantly ---



--- the #1 Killer of Children !

**That Makes These Two Threats to Our Community
Our Challenge ... and Our Duty ... To Improve Upon**



We Are Already Taking Local Action ...



*With City-Wide CPR Training ...
... And Enhancing DFR Training & Response*

and Dallas City Council Members ...



*... Have Even Provided a Leading ...
... And Life-Saving Role !*

*But Is Our
Federal Government
Also Addressing
These Issues ?
(That Affect ALL Americans)*

The Answer is

Yes !



In 2004 ...



**The U.S. NIH Sent Out an RFA
to Establish a Network
of 10 Cities in North America**

That

Would Drive National Priorities

*in Terms of Uncovering New Ways
to Save More Lives*

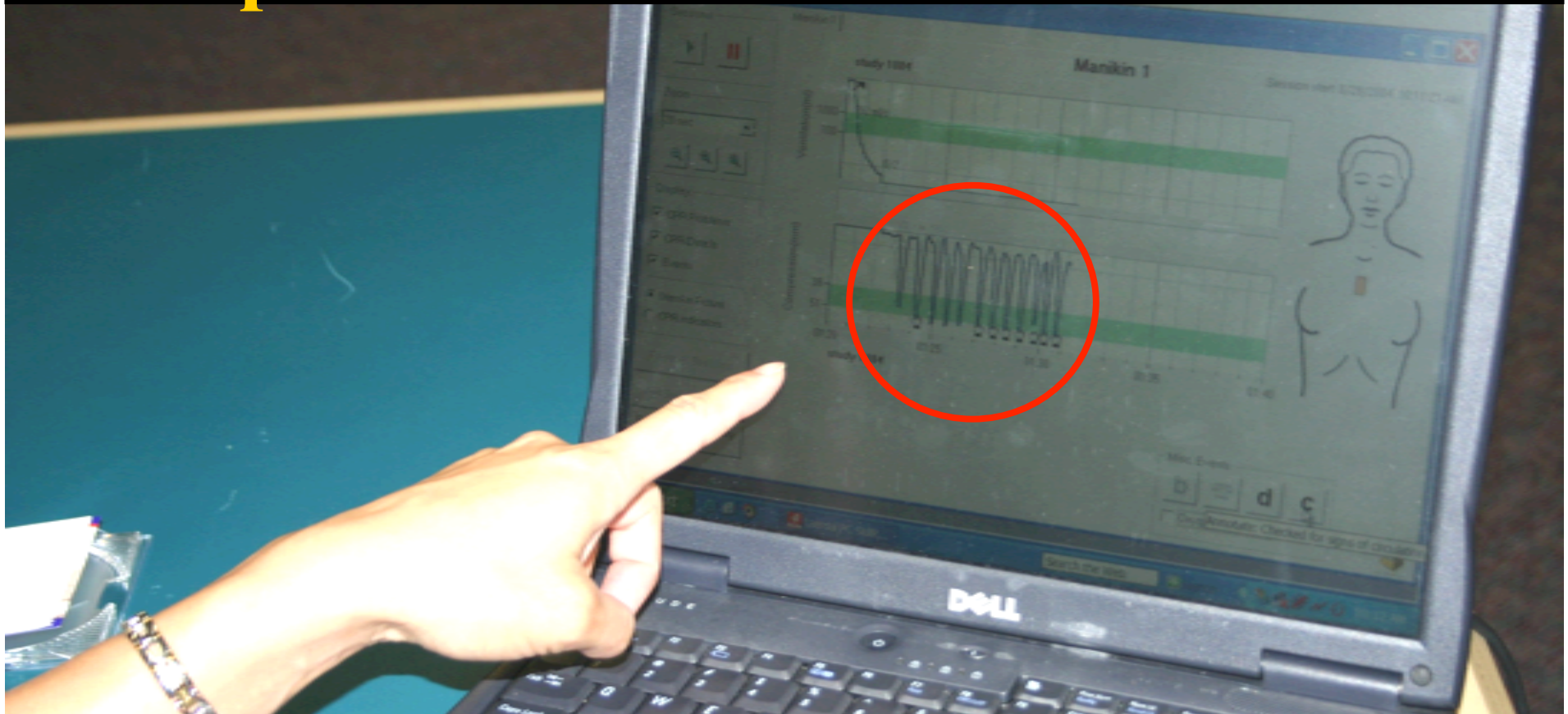
following Sudden Cardiac Arrest and Trauma

Among > 100 Highly Competitive City-University Partnerships that Applied...

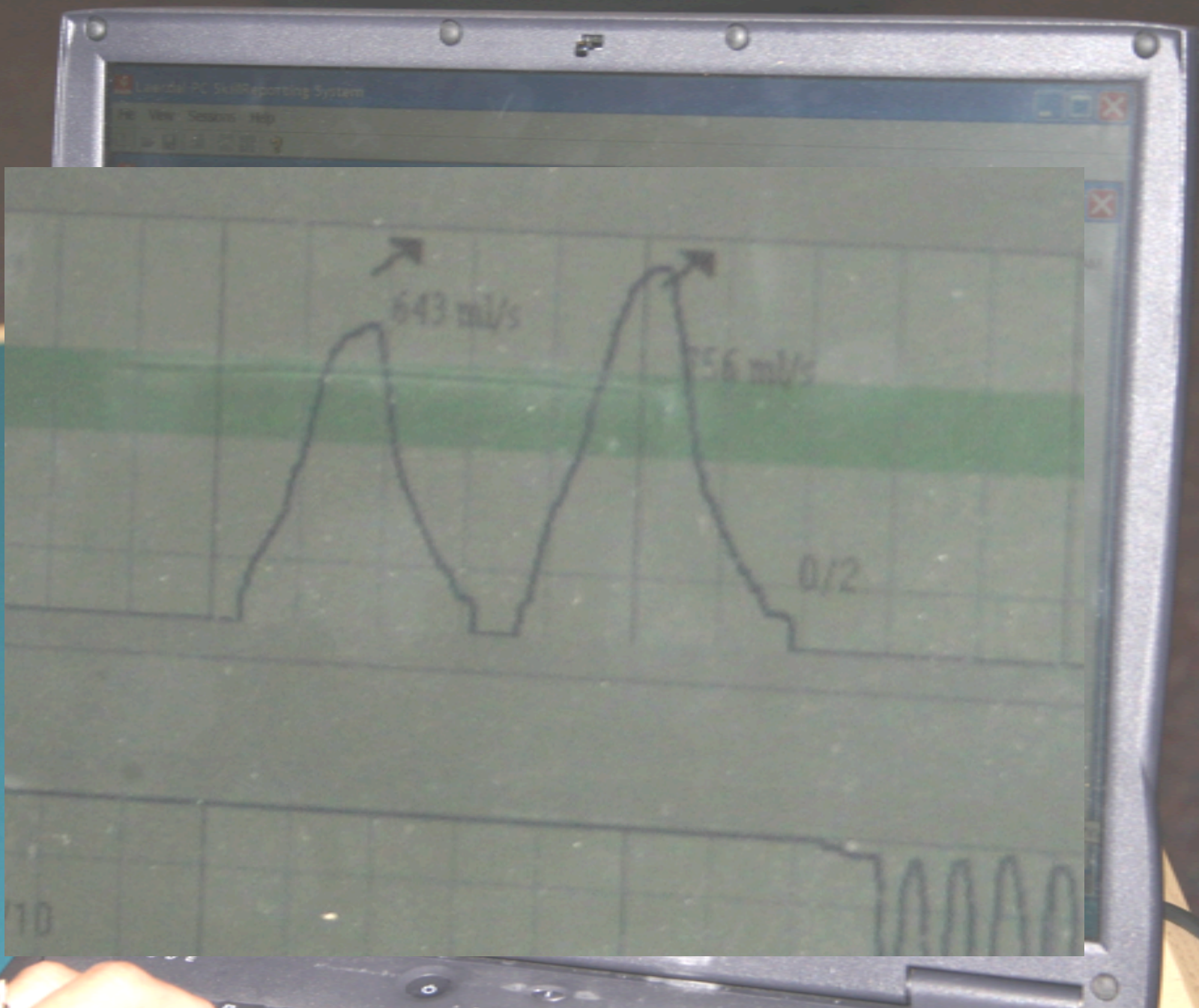
- **The Dallas Area *BioTel* System** (incl. Dallas & other member Cities)
was 1 of only 7 Major U.S. Municipal Sites Chosen
- **Dallas Was Designated a Center of Excellence for
Resuscitation Medicine and Related Research**
- **This Meant Unique Federal Funding for Training,
New Life-Saving Equipment, Data Collection
and Additional Medical Oversight**
- **And the Hope for --- *A Life-Saving Effect !***



Besides Salaries for Expert Personnel to Capture the Data and Outcomes ...



Acquired Monitoring Equipment:
for example, the ability to Capture Sec. to Sec. Performance of CPR
.... Recorded and Measured on Computers!



First 3 Multi-Year Projects:

- **EPISTRY:** A Population-Based Registry of All Incidents Related to these 2 Epidemics to Establish Baseline #'s & Survival
(for Both Cardiac Arrest and Trauma)
- **IMPEDANCE THRESHOLD DEVICE:**
“ITD” -- Special Valve that ↑↑ Blood Flow Back into the Heart (in Cardiac Arrest)
- **HYPERTONIC SALINE (HSD):**
Infusion of a Highly Concentrating Fluid in Trauma Resuscitation (widely used in Europe)

*How Did the
First Trial of
a Device Go?*

ITD Study

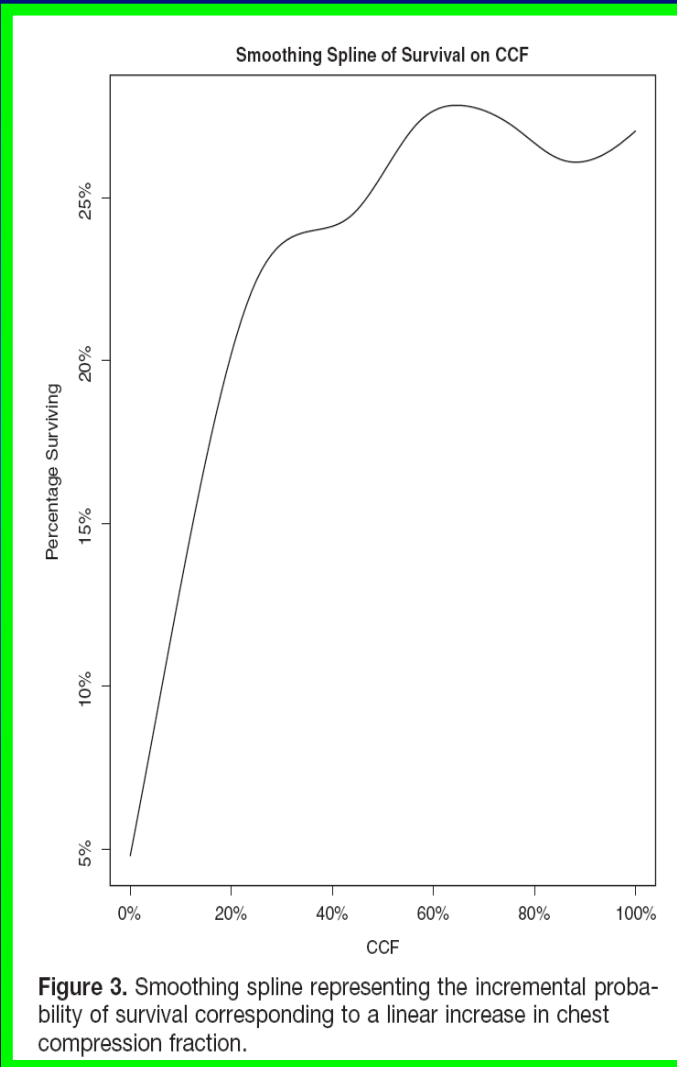


*Very Interesting Results ...
No Advantage
In Survival Chances
from the ITD Itself*

**...But Survival Rates ↑↑↑
A 55% Improvement
in Dallas Alone!**

So Why ?

Key Finding of Early Studies



Chest Compression Fraction Determines Survival in Patients With Out-of-Hospital Ventricular Fibrillation

i.e., The More Time Medics Spend Doing Chest Compressions, Then the Better the SURVIVAL RATE !!

With the NIH Funded Monitoring Systems, We Gave On-Going Feedback to Medics !

 ORIGINAL CONTRIBUTION

Minimally Interrupted Cardiac Resuscitation by Emergency Medical Services for Out-of-Hospital Cardiac Arrest

Bentley J. Bobrow, MD

Lani L. Clark, BS

Gordon A. Ewy, MD

Vatsal Chikani, MPH

Arthur B. Sanders, MD

Context Out-of-hospital cardiac arrest is a major public health problem.

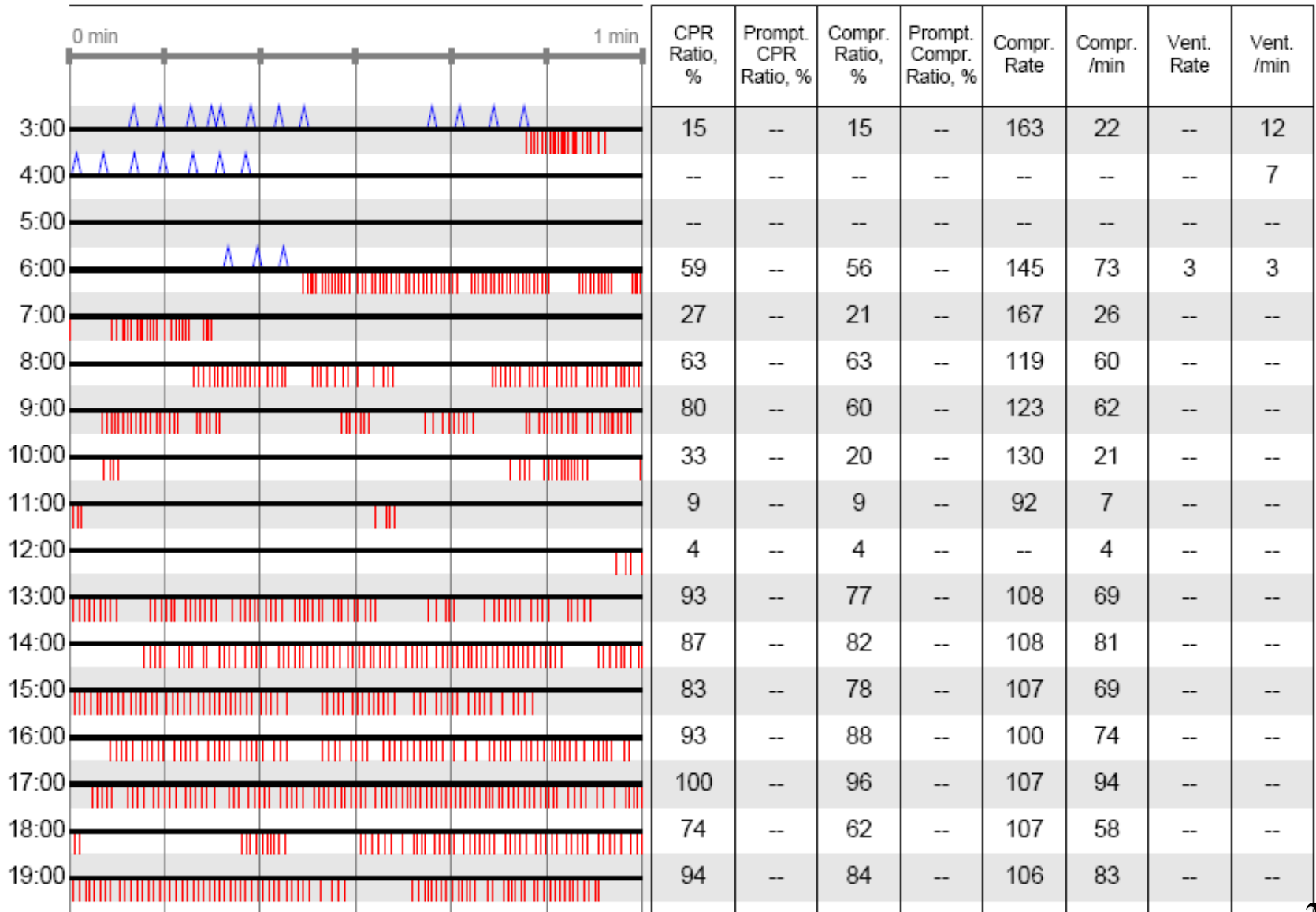
Objective To investigate whether the survival of patients with out-of-hospital cardiac arrest would improve with minimally interrupted cardiac resuscitation (MICR), an alternate emergency medical services (EMS) protocol.

Design, Setting, and Patients A prospective study of survival-to-hospital discharge between January 1, 2006, and November 22, 2007. Patients with out-of-

CPR 2006

CPR QUIK-VIEW

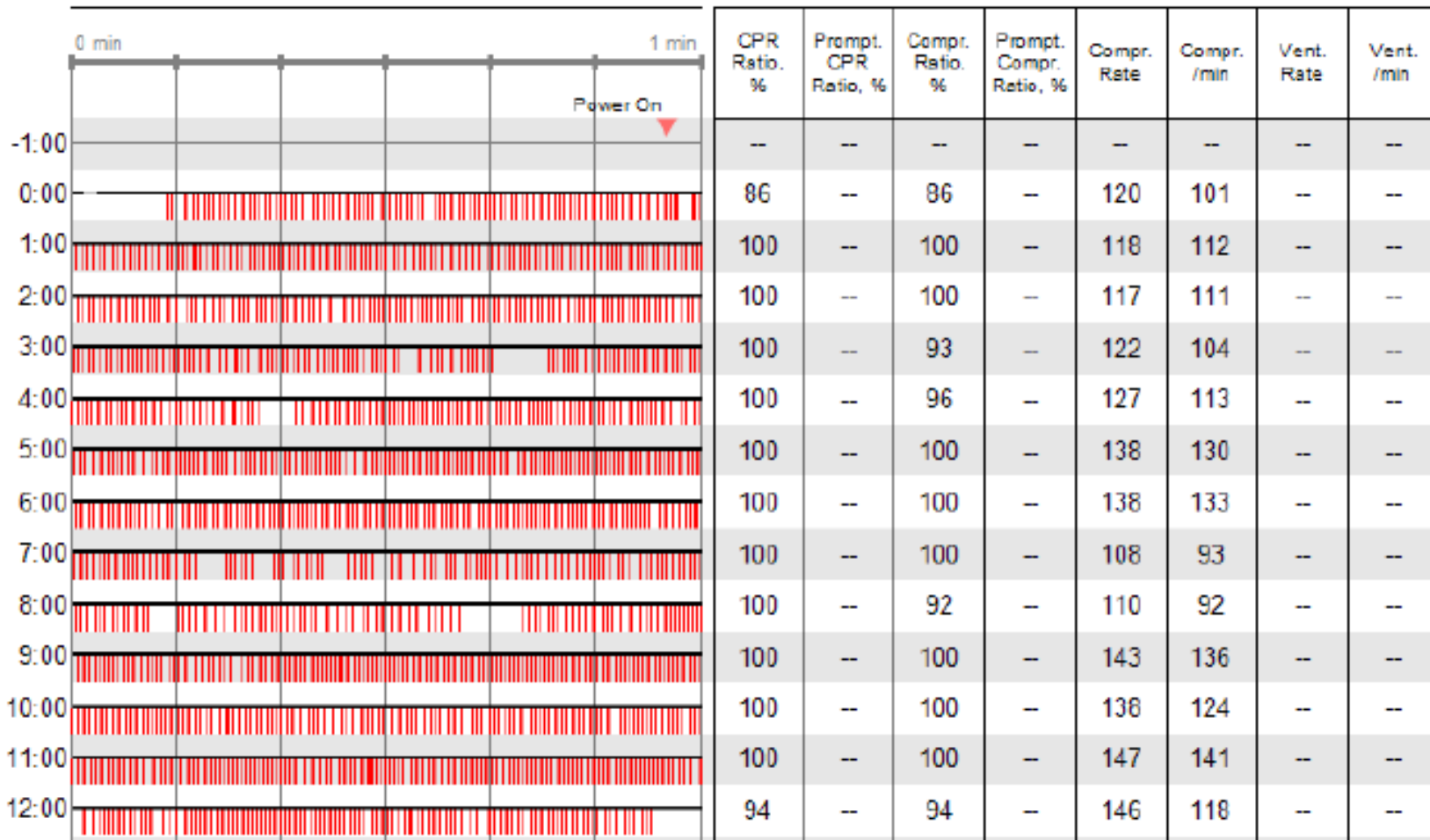
Interval Statistics



CPR 2009

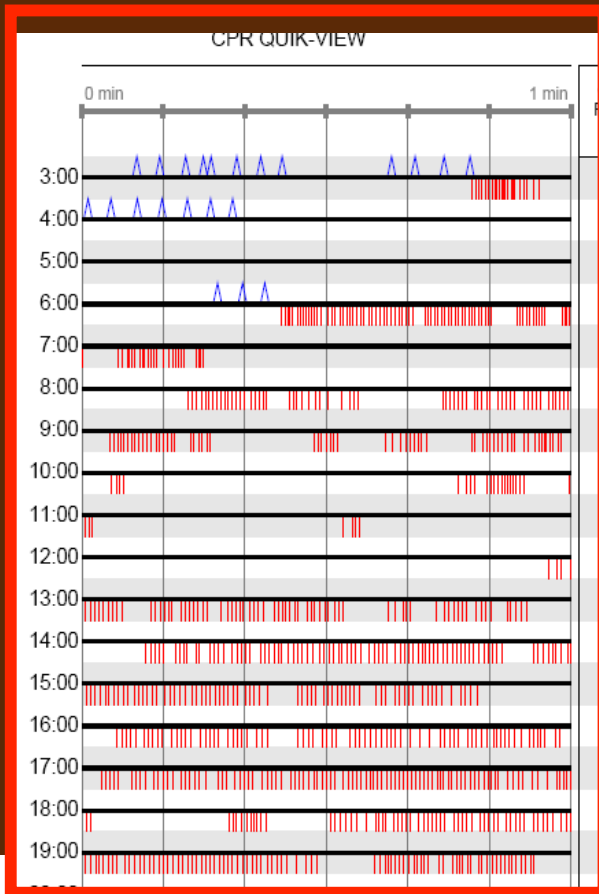
CPR QUIK-VIEW

Interval Statistics

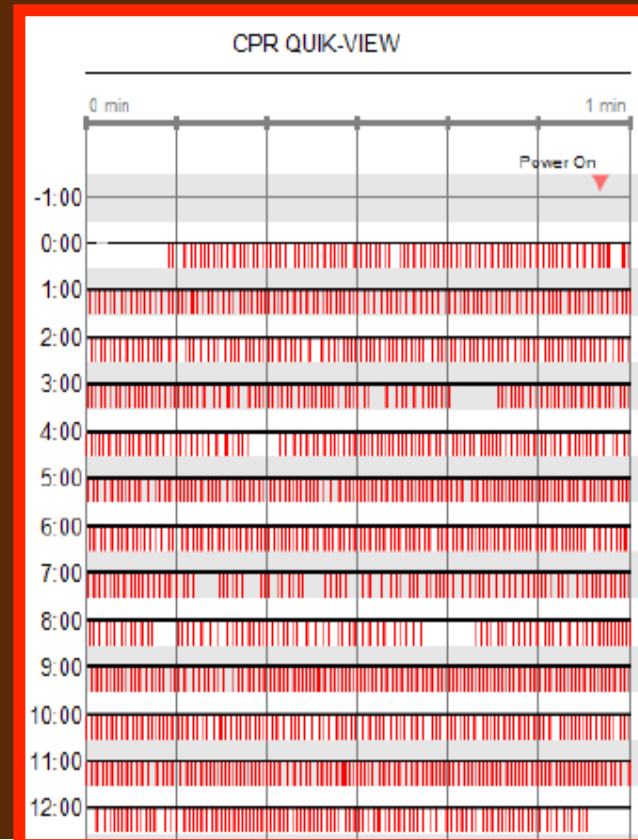


Following Feedback, Re-Training and... *More Re-Training:*

2006



2009



Impact on Dallas Area Outcomes

	Survival to Hospital Discharge		
	<i>2006</i>	<i>2009</i>	<i>Relative Percent Increase</i>
Dallas	3.9%	6.0%	54%
Irving	7.0%	11%	57%
Mesquite	3.0%	6.0%	100%
Carrollton	4.2%	15.8%	376%



While the Percentages Seem Small...

Because of the Large #'s Treated...

**...This Translates into Dozens of
More Lives Saved in Dallas Area
...And Hundreds Across the
Numerous ROC Jurisdictions**

Similarly, in the Trauma Study ...

- **Although No Dramatic Differences Were Found at the End of Study ...**
- **Overall Survival Rates Reportedly Increased from Baseline Rates**

(Final data and Statistical Analysis still being reviewed)

Grants help make Dallas County one of best places to suffer cardiac arrest

10:24 PM CST on Friday, February 26, 2010

By JASON ROBERSON / *The Dallas Morning News*



Steven Shelley is grateful for a federal grant that helped Dallas County medics and firefighters save more cardiac arrest patients last year and send them back to work.

Public Health

Cardiac care gets a jolt

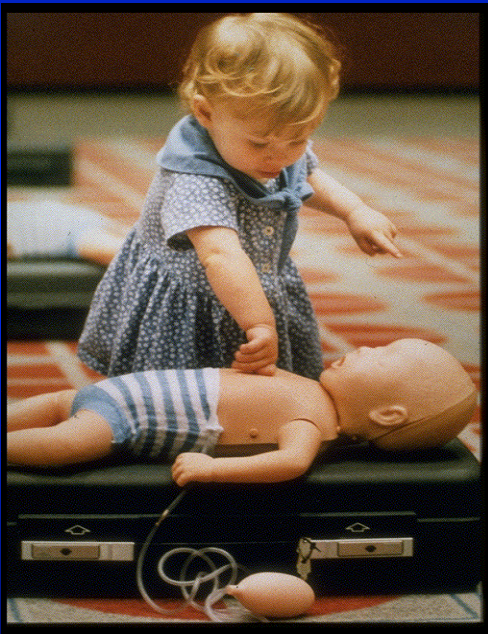
County goes from one of the worst to one of the best places for a heart to stop

Steven Shelley is grateful for a federal grant that helped Dallas County medics and firefighters save more cardiac arrest patients last year and send them back to work. After finishing a four-hour shift of moving boxes up and down ladders, the 46-year-old warehouse manager in Carrollton told co-workers he was grabbing a bite to eat

On the Horizon...

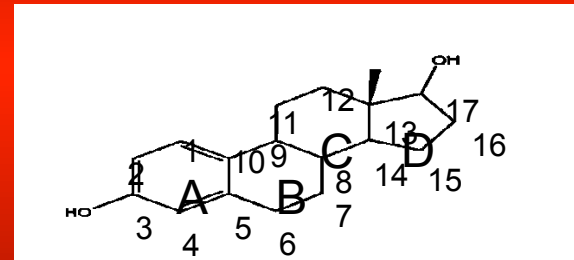


Chest Compressions **ONLY** CPR *vs. the Traditional Approach with Rescue Breathing Included*



*In Stroke, Brain/Spinal Cord Trauma,
Sepsis and Cardiac Arrest Models. . .*

Acute Administration of I.V. Estrogen



Shown to Provide Significant Protection

(up to 60%)

PRINTED IN
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F.S. 651

002-0010-
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CONTINENTAL
AIRLINES

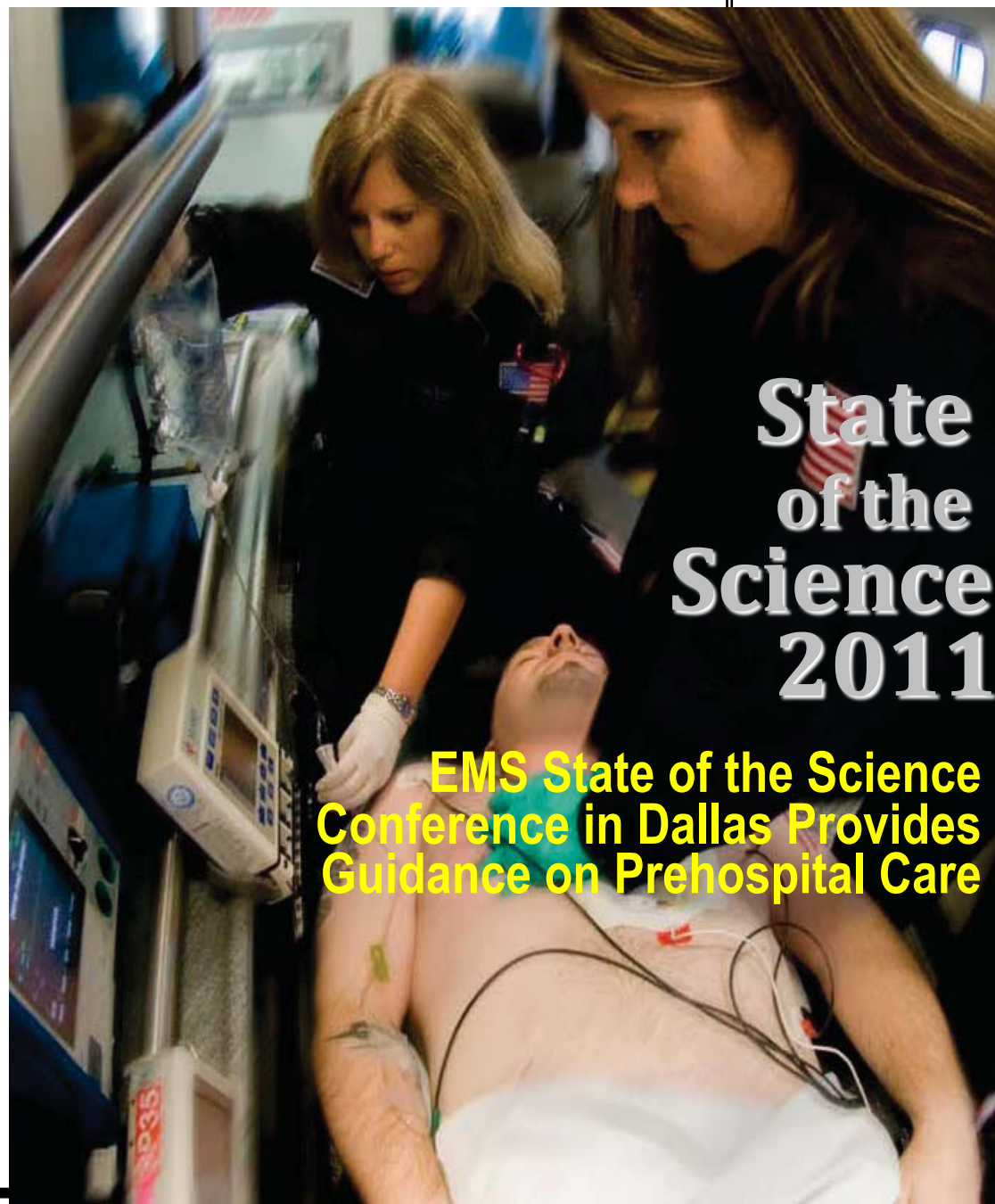
LATE CHECK-IN

CONTINENTAL BAGGAGE CLAIM CHECK

Baggage is checked subject to tariffs,
including limitations of liability therein
contained.

This is not the luggage ticket (Baggage
Check) described by Article 4 of the
Warsaw Convention as amended by the
Hague Protocol 1955.

**More
Lives
Being
Saved
Because
of the
Research !**



**State
of the
Science
2011**

**EMS State of the Science
Conference in Dallas Provides
Guidance on Prehospital Care**

*On the Road to the
22nd Century...*

Not Only Make Life Better....



...for Future Generations !!!

But Also Remember...

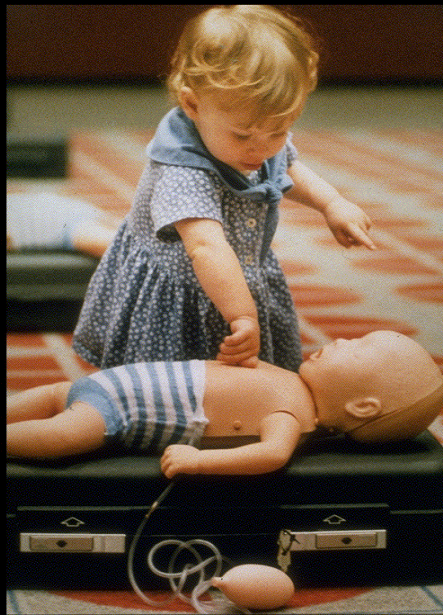


It's Good Business Too...

To Make Your City the Safest City in Which to Be Resuscitated...



“ City of Dallas ...



We're No Dummies !! ”

Thank

You !!!



First Day on the Job

...at the German Coast Guard



Dallas Area BioTel System (Metropolitan EMS System)



*Was the Key to Being Awarded the Grant
.... and Our Subsequent Successes*

Why Was BioTel the Key?

Numbers, Numbers, Numbers !

Across the County....



- **> 2,000 Annual Cardiac Arrests**
- **> 15,000 Annual Level I Traumas**

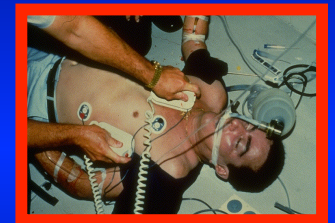


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A Brief History and Latest Progress of the

***U.S. National Institutes of Health
Resuscitation Outcomes Consortium***



Presented by Paul E. Pepe, MD, MPH



The U.S. National Institutes of Health Resuscitation Outcomes Consortium



National Heart, Lung, and Blood Institute



National Institute for Neurological Disorders and Stroke



Canadian Institutes of Health Research



U.S. Department of Defense



Defence Research and Development Canada



American Heart Association



Heart and Stroke Foundation of Canada



*What is the
#1 Cause of
Preventable
Premature Death in
our Community ?*

And in Dallas County Alone....

...That's 6 to 7 Lives Lost Each Day



Some are Children....

...Including Young Athletes

...and 40% are Women

*What is the
#1 Cause of
Premature Death in
our Children and
Young Adults ?*



*In January 2010, at City Hall,
the NIH Held a News Conference*

- **Announced NIH Renewal of
ROC for Six More Years**
- **And Dallas Was Renewed as
One of the ROC Sites**
- **Cited Dallas as a Model Site !**

Dr. George Sopko from the NIH



**Congratulating Dallas Area Firefighters/EMS Personnel
at the Dallas City Hall L1 Conference Room**

The NIH ROC Has studied:

Cardiac Arrests: 13,000 / year

Severe Traumatic Injuries: 26,000 /year



Current ROC Funding Partners:



National Heart, Lung and Blood Institute



Institute of Circulatory and Respiratory Health of the
Canadian Institutes of Health Research



National Institute of Neurological Disorders and Stroke



Defence Research and Development Canada



United States Army



Heart and Stroke Foundation of Canada



American Heart Association

