The Greatest Risk

EMS and the Non-transported Patient


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My Perspective

Save the whales: Collect the whole set!

42.7% of all statistics are made up on the spot

99% of lawyers give the rest a bad name

I intend to live forever….so far, so good

My Perspective

To steal ideas from one person is plagiarism;

To steal from many is <u>research</u>

What I do…

Sixteen EMS agencies
1,400 Paramedics
300,000 responses per year

The Moral Imperative

Increase the human condition through commitment and devotion to duty

The Moral Violation

Harming another human through dereliction of duty

Dereliction of Duty

Knowingly failing to
apply all due diligence
to someone in need
ESPECIALLY
when responsible for the person

The Great Risks of EMS


Airway Management


Driving Practices


Non-transport of "clients"

Airway Management

The era is OVER
when we can EVER
justify a mis-placed ET tube
that escapes detection

Airway Ethics in EMS

"It is not acceptable once in a hundred, or a thousand, or a million intubations.

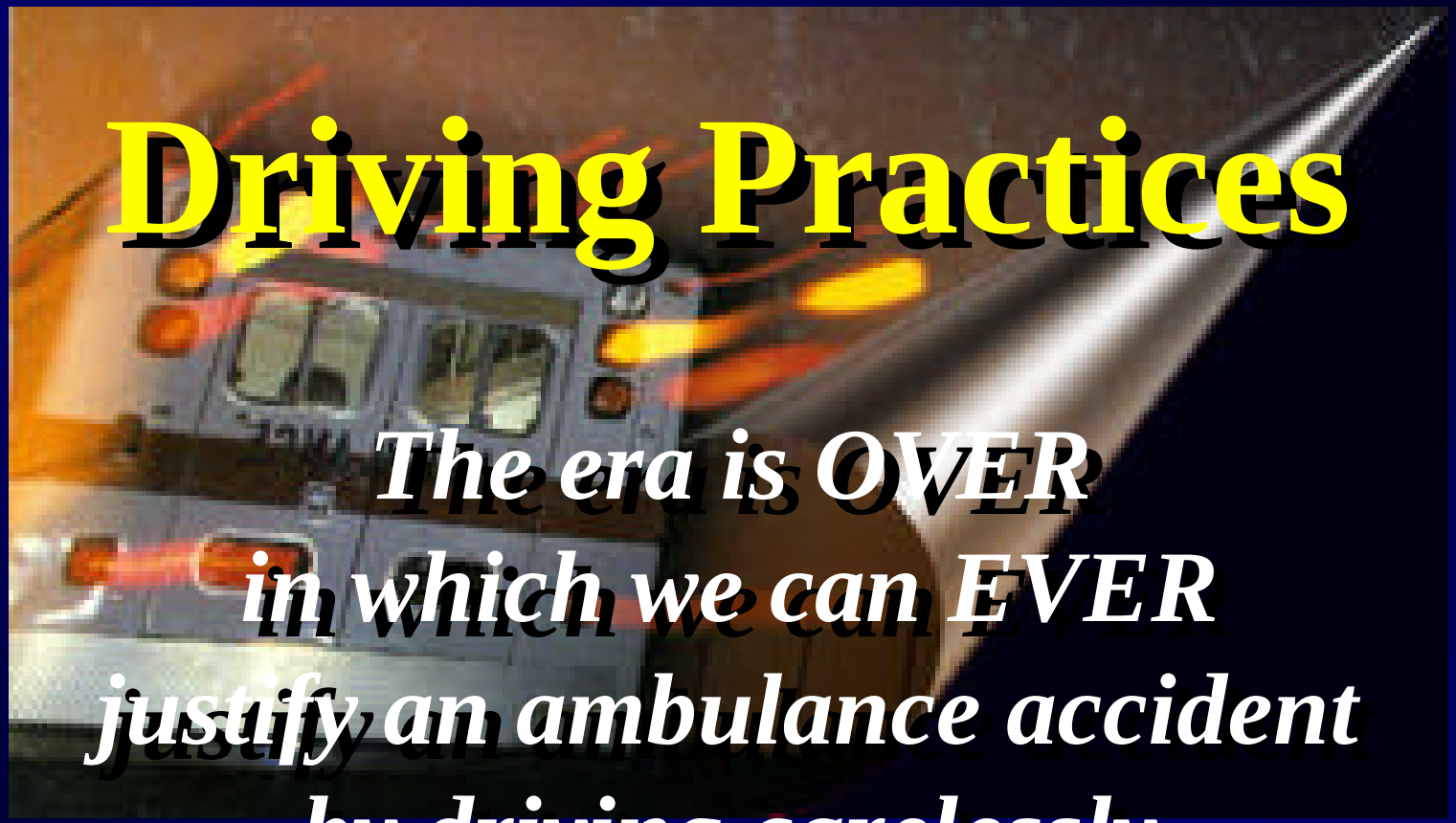
It is not acceptable at any time."

Larkin GL, Fowler RL. Ethical issues for EMS: cardinal virtues and core principles. Emerg Clin No America 2002;20:887-911.

Misplaced ET Tubes

They either NEVER went in
or they came out

Both apply,
and both must be prevented



Driving Practices

The era is OVER
in which we can EVER
justify an ambulance accident
by driving carelessly
to or from a scene

Driving Practices

- *Speed limits must be obeyed*
- *Drive with “due regard”*
- *Road surfaces must be monitored*

Driving Practices

Promise this:

You will never harm
YOURSELF FIRST,
YOUR PARTNER NEXT,
THE CITIZENS NEXT, and
YOUR PATIENT **LAST**

The Care and Feeding of the "Non-transported Client"

THE U.S. EMS PATIENT NON-TRANSPORT ISSUE

How many of you
were trained,
in your initial training program,
about how to safely
non-transport a patient?

BACKGROUND

DURING TRAINING,

PARAMEDICS CANNOT POSSIBLY LEARN THE SUBTLETIES AND NUANCES OF EVERY POSSIBLE ILLNESS OR INJURY

BACKGROUND

AS LONG AS THE PATIENT IS TRANSPORTED TO AN ED, THERE IS NOT LIKELY TO BE AN ADVERSE CONSEQUENCE OF A MISSED DIAGNOSIS

BACKGROUND

BUT WHAT ABOUT PATIENTS WHO ARE NOT TRANSPORTED?

SCOPE OF THE PROBLEM: PREVIOUS REPORTS

- Hauswald M; 2002: PEC 6(4): 383
- Silvestri S et al; 2002: PEC 6(4): 387
- Vilke GM et al; 2002: PEC 6(4): 391
- Pointer JE et al; 2001:
  - Ann Emerg Med 38:268
- Zachariah B et al; 1992:
  - Prehosp Disaster Med 7: 359

Hauswald 2002

- Prospective survey in Albuquerque, NM
- 236 patients
  - 183 charts reviewed
    - 97 patients recommended not to need ambulance transport
      - 23 (24%) ended up needing it
    - 71 patients recommended not to need ED
      - 32 (45%) needed it

Hauswald 2002 - 2

- ED diagnoses of those for whom “alternative transportation” was recommended included:
  - Coma
  - Chest pain
  - Seizure, adult onset
  - Dislocated hip
  - Sepsis
  - Syncope
  - Pyelonephritis
  - Liver failure
  - Hypoxia
  - Severe bleeding

Hauswald 2002 - 3

- **ED diagnoses of those for whom non-ED care was recommended included:**
  - **Active labor**
  - **Extensive lacerations**
  - **Child abuse**
  - **Assault, multiple injuries**
  - **MVC, multiple injuries**
  - **Multiple drug OD**
  - **Liver failure**
  - **Fractures**
  - **Chest pain**

Hauswald 2002 - 4

“Paramedics cannot safely determine which patients do not need ambulance transport or ED care.”

Mark Hauswald

Former State EMS Medical Director for New Mexico

Silvestri et al 2002

- "Prospective" survey in Orlando, FL
- 313 patients
  - 85 patients: paramedics felt no transport to the Emergency Department was necessary
    - 27 (32%) met criteria for ED treatment
      - 15 (18%) admitted
      - 5 (6%) admitted to ICU
      - 19 (22%) extensive imaging studies in ED

Silvestri et al 2002 - 2

- **Final diagnoses of the 15 patients felt not to need ED care included:**
  - **MRSA pneumonia**
  - **Aspiration pneumonia**
  - **CHF**
  - **Stroke**
  - **Femur fracture**
  - **Septic arthritis**
  - **Syncope**
  - **Hepatitis**
  - **Pancreatitis**
  - **Cocaine toxicity**

Silvestri et al 2002 - 3

- "In this urban system, paramedics cannot reliably predict which patients do and do not require ED care."

Vilke et al 2002

- Telephone survey of elderly patients who called 911, then refused transport
- 636 patients
  - 121 reached by phone
  - 100 participated in the survey
    - Average age: 72.2 +/- 6.4 yr.
    - CC: 61% medical, 39% trauma

Vilke et al 2002 - 2

- Reasons why 911 was called:
  - Worsening patient condition (53%)
  - Did not have primary care MD (14%)
  - No other transportation (12%)
  - Other reasons (21%)

Vilke et al 2002 - 3

- Reasons why patient refused transport:
  - Patient did not want transport (37%)
  - Concerned about ED cost/coverage (23%)
  - Paramedics implied no transport needed (19%)
  - Concern about ambulance cost (17%)
  - Language barrier (4%)

Vilke et al 2002 - 4

- Of the 100 patients, only 20 spoke with base station MD during paramedic visit
  - 80 (80%) did not
    - 39 (49%) would have changed their mind had they done so

Vilke et al 2002 - 5

- 70 (70%) received follow-up care for the same condition after the paramedic visit:
  - Family MD (38%)
  - Urgent care facility (35%)
  - 2nd 911 call – ED transport (13%)
  - ED transport by private vehicle (13%)
  - 2nd 911 call – treated @ scene (1%)

Vilke et al 2002 - 6

- Chief complaints of the 23 of 70 (32%) of patients who were admitted at time of follow-up care included:
  - LOC
  - Abdominal pain
  - Chest pain
  - SOB
  - Fall
  - MVC
  - Migraine
  - Pulselessness
  - Nausea

Pointer et al 2001

- 1,180 patients evaluated & triaged by paramedics with written transport guidelines
  - 180 (15%) determined by paramedics not to require ED care
    - 113 (63%) were under-triaged
      - 22 (20%) were admitted

Richmond et al 1999

- 3,225 Elderly patients who initially refused transport
  - 474 (15%) transported after OLMC consult
  - 402 with paramedic opinion re: necessity
    - 167 (41%): medic thought transport not necessary
      - 27% eventually admitted

Richmond et al 1999 - 2

- Consult with online medical control resulted in transport of 15% of elderly patients who initially refuse transport

- More than 25% of these patients were admitted (about 4% overall of those who initially refuse care)

Richmond et al 1999 - 3

- "In the absence of contact with OLMC, field providers may not be able to accurately identify patients with medical problems requiring hospitalization."

Zachariah et al 1992

- **MORE THAN 50% OF PATIENTS WHO CALLED 911 WERE NOT TRANSPORTED***
  - **16% ULTIMATELY ADMITTED**
  - **4% ADMITTED TO ICU or DIED**
  - **30% of non-transported patients did not remember being given the option of being transported**

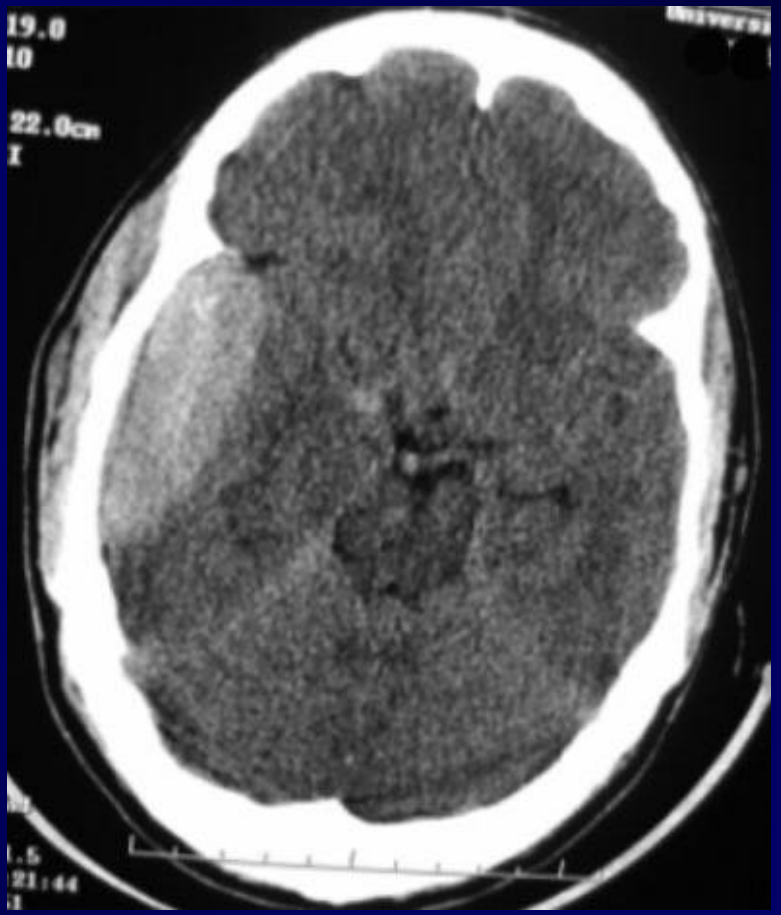
CONCLUSION

DESPITE ADVANCED TRAINING IN PATIENT ASSESSMENT, PARAMEDICS CANNOT ALWAYS IDENTIFY THOSE PERSONS WHO DO NOT REQUIRE EMERGENCY DEPARTMENT EVALUATION OR HOSPITAL ADMISSION

CONCLUSION

PARAMEDICS CANNOT RELIABLY PREDICT WHICH PATIENTS DO & DO NOT REQUIRE TRANSPORT or EMERGENCY DEPARTMENT CARE.

Paint Gun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CONCLUSION

THE IMPLICATIONS OF PATIENT NON-TRANSPORT ARE SUBSTANTIAL

ADVERSE PATIENT OUTCOME

LIABILITY

- **INDIVIDUAL PROVIDERS**
- **AGENCIES**
- **SYSTEM**

ADDITIONAL FACTORS

- HOSPITAL ED OVERCROWDING
- AMBULANCE DIVERSIONS
- DWELL TIMES IN THE ER
- SYSTEM COST OF “UNNECESSARY” TRANSPORTS
  - EQUIPMENT
  - PERSONNEL

MITIGATING FACTORS

- RISK OF AMBULANCE TRANSPORT
- MANY PATIENTS TRANSPORTED, IN RETROSPECT, DO NOT BENEFIT FROM THE CARE DELIVERED OR FROM THE MORE RAPID TRANSPORT (Kost 1999)

Two little old ladies were attending a rather long church service.
One leaned over and whispered, "My butt is going to sleep."
"I know," replied her companion, "I heard it snore three times."

Four Types of Non-Transported Clients

- True Refusals
- The "Non-patient"

(nobody with ANYTHING wrong)

- Those requesting a physical exam

so that they can then decide

- Patients talked out of going

People USED to call us for ONE Reason

Take me to the hospital

Life was easy then

It’s not true anymore!

We've created a monster

Because we're so good,

and so prompt,

and give so much

to our citizens…

We're now their handy dandy, come check me out, and I'll let you know if I decide to go to the hospital

"Professional Rescuees"

know that EMS rides are pricey,

that hospitals are expensive,

that they often don't get billed if

they are treated on the scene

and released

(like giving dextrose or albuterol)

...like...

Daddy had some chest pain, do an EKG and check him out, and we'll decide what to do…

...or...

"Just check him out
and then let me know
what you think we should do
and then we'll decide…"

Back to the Moral Imperative

- You cannot
- You must not
- ***YOU MAY NOT***

…do something that you are NOT trained to do…

…especially when it might hurt someone…

YOU MAY NOT…

Render a clinical opinion as to a specific diagnosis if you have not been trained in that field, been determined qualified to express that opinion, and licensed to do so

…especially…

In the night…

…when you're exhausted…

…when it's 6 a.m. and you're getting off at

7 a.m. and the patient's doctor opens at 8 a.m.

You know the drill

Well, Ma'am, your vital signs are okay,
and this EKG looks okay, and
you aren't having any symptoms now,
and WE'LL take you to the hospital…

…but since your Vitals are okay, this may not be an emergency, and our ambulance ride is $500, and since it may not be an emergency, your insurance may not pay for it…

You know the drill

We'll take her to the hospital if you want,
but since her Vitals are okay,
she's probably okay to go by car…

…but we'll take her if you want…

Case in Point

2 y/o DIB

EMS at restaurant, food has just come

Respond emergency

“2 y/o DIB, making goo-goo eyes, chest congested, R – 40”

(Sign here for the free TV)

Case in Point

Same unit responds
two hours later
to a respiratory arrest on this child
who expired 4 days later
of brain death in the ICU

Case in Point

They were distracted by hunger

Their evaluation was wrong

They expressed an opinion that they were not qualified to make

…and they killed a kid…

Case in Point

Kid was clearly sick

“Congested” = Rales and wheezes

Respirations >40

The medics didn’t look…

Case in Point

…and what was the only thing that they could say in their defense at their depositions when they were asked about why they had not followed the protocol for pediatrics which required medical control contact???

Case in Point

"WE NEVER SAW THAT PROTOCOL!"

Another Case

Medics respond to a young adult with a high fever

Patient has JUST been to the doctor and has come home with prescriptions

The fever is 104 degrees

What did the medics do?

Another Case

Told the patient to
push plenty of fluids,
start taking the medication,
take Tylenol for the fever,
and give the treatment
time to work

Another Case

Why did the Medics say that?

Because the patient had seen the doctor, and the doctor must have been right!

Another Case

What happened?

Another Case

The patient was dead of sepsis by morning…

Yet Another Case

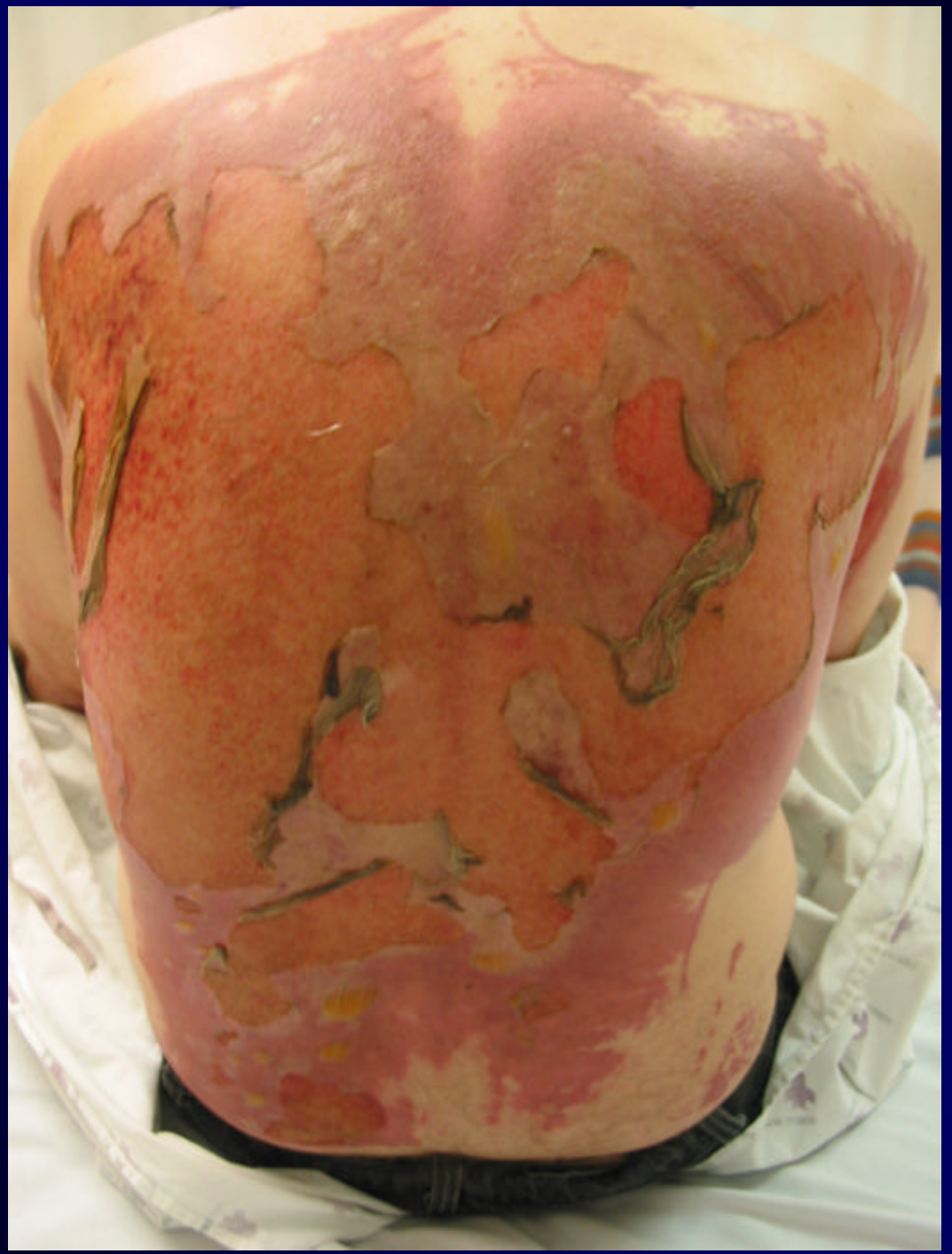
Bum living in a bum place was burned when a heater caught his shirt on fire

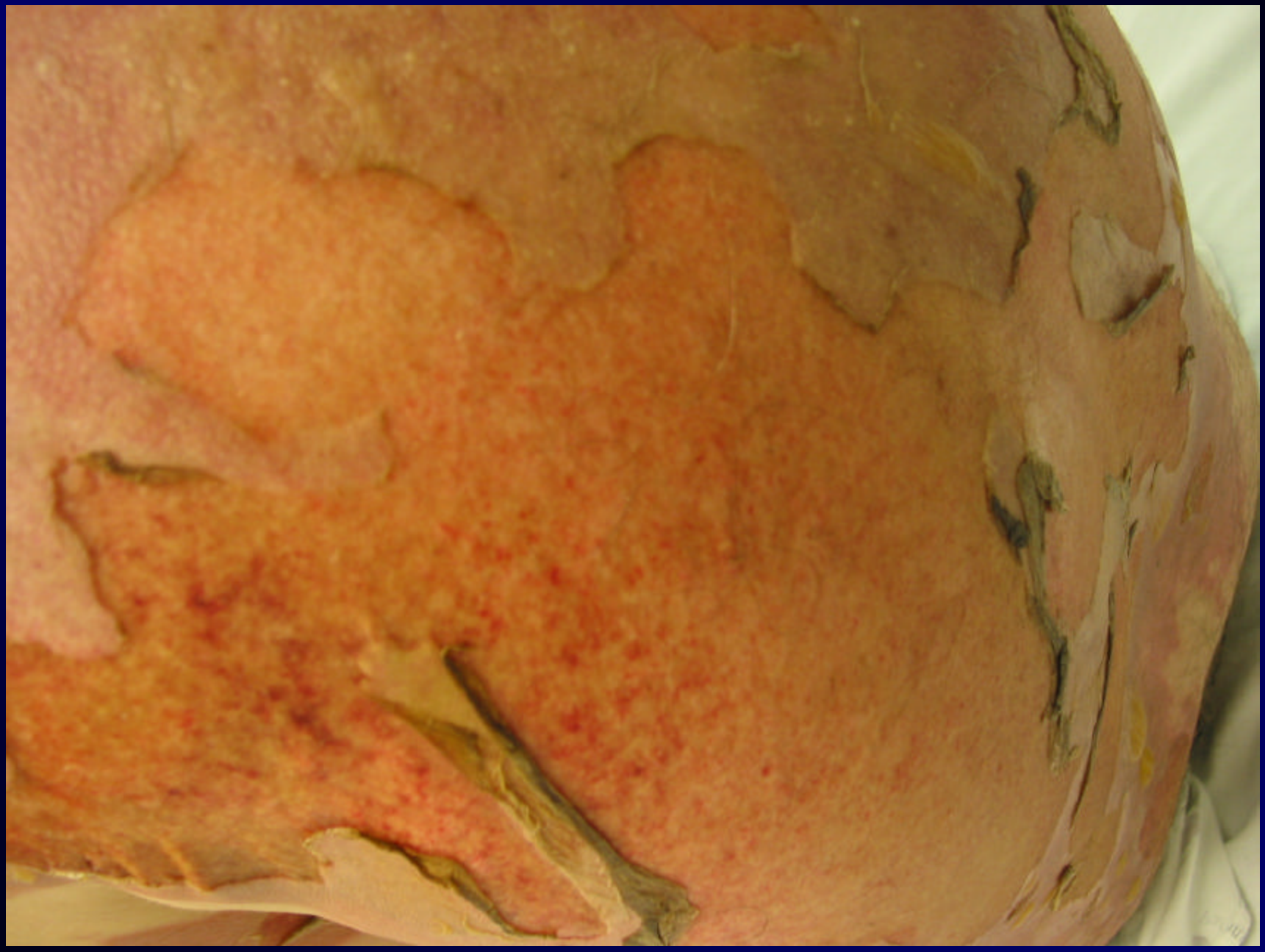
Yet Another Case

- **Medics responded**
- **Guy had NO PAIN and was pretty stinky**
- **No loaded the guy**

Yet Another Case

Fowler sees him at Parkland two days later





Yet Another Case

A brief prayer meeting was held with the medics

Yet Another Case

Medics said, "well, the guy wasn't having any pain"

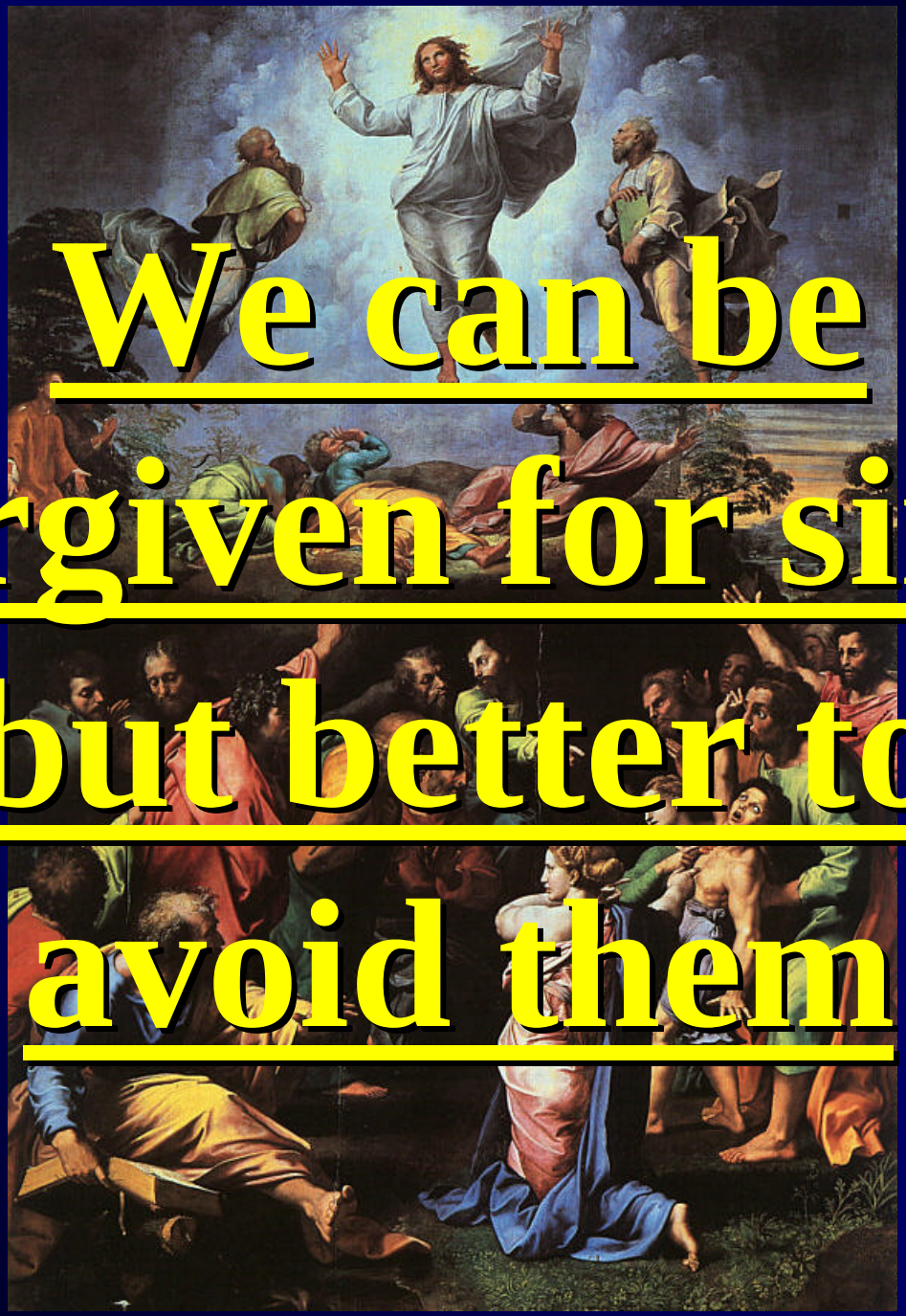
Yet Another Case

I said, "guys, 3rd degree burns often have no pain, and this guy had almost 18% TBSA burns"

Coercion

"Any attempt to persuade a patient to do something that satisfies a need of the medic but that may be adverse to the patient"

Coercion is a sin



We can be forgiven for sins, but better to avoid them

The Dallas Situation

We respond to almost 250,000 patients annually, transporting some 91,000

The Dallas Situation

We have some 300
non-transported
patients per day in our system

The Dallas Situation

How in the WORLD do I do quality control on such a situation?

I don't get run sheets sometimes for weeks or months at a time

Non-Transport of EMS Patients: *Identification of Individual Paramedic Crew Behaviors Through System-wide Automated Audit Mechanisms*

Raymond L. Fowler, MD; Paul E. Pepe, MD, MPH; David M. Melville, BS; and Alexander L. Eastman, MD

The Section on Emergency Medical Services, Department of Surgery
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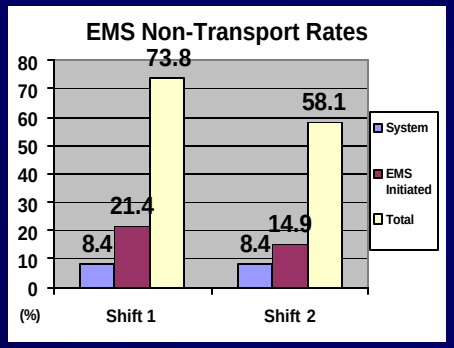
Background

Many EMS systems use non-transport policies to optimize resource utilization. While well-intended, such policies may increase the risk of mistriage and potential for bad outcomes. Therefore, in any system allowing non-transports, effective monitoring methods are strongly recommended. The purpose of this study was to demonstrate the utility of a system-wide audit of automated EMS records to identify varying rates of non-transport among individual paramedic crews, thus allowing identification of potential areas for focused investigation and intervention.



Methods

A retrospective analysis of 906,011 EMS incidents from 1998 to 2003 in a large, urban EMS system was performed. Data from computerized EMS patient records were reviewed and entered into a proprietary Microsoft FoxPro (Microsoft Corporation; Redmond, WA) database. Generated reports were then exported into Microsoft Excel for compilation and analysis. These data were analyzed with specific regard to variation in the rate of non-transport across individual crews, shifts and stations.

Results

During the 6-year study, no patient was transported to a hospital in 541,920 incidents (59.8%). Great variability was found in both the rate and reason for non-transport. The highest overall rate of non-transport by an individual crew, "Shift 1", was found to be 73.8% and this individual crew maintained the highest non-transport rate in the system for five of the six study years. A second crew at the same station, "Shift 2", had an overall non-transport rate of only 58.1% (OR: 1.9 [1.8,2.1] P=<0.00001). The EMS-initiated (versus patient-initiated) non-transport rate for Shift 1 was 21.4%, as compared to Shift 2, whose EMS-initiated non-transport rate was 14.9% (OR: 1.9 [1.7,2.1] P=<0.00001). System-wide, the overall EMS-initiated non-transport rate was 8.4% (range: 2.8%21.4%).

SOUTHWESTERN

Conclusions

In a large urban EMS system, considerable variability exists between individual crews regarding both the rate of non-transports and the reasons for non-transport. While multiple geographical and sociological variables may explain this variation, across the system, this analysis still provides strong data to justify targets for review (e.g. large differences in transport rates at the same station on different shifts). Further study should determine whether this focus allows medical directors to more efficiently direct corrective interventions and provide remedial training where indicated.

DALLAS METROPOLITAN EMS MEDICAL DIRECTORS

We pulled 906,011 records over six years looking at non-transport trends

We found that one shift in one station was 100% more likely to no-load patients than the shift at that station with the lowest non-transport rate

P value = <0.0001

P value = <0.0001

This means that the likelihood of this occurring by chance is virtually impossible

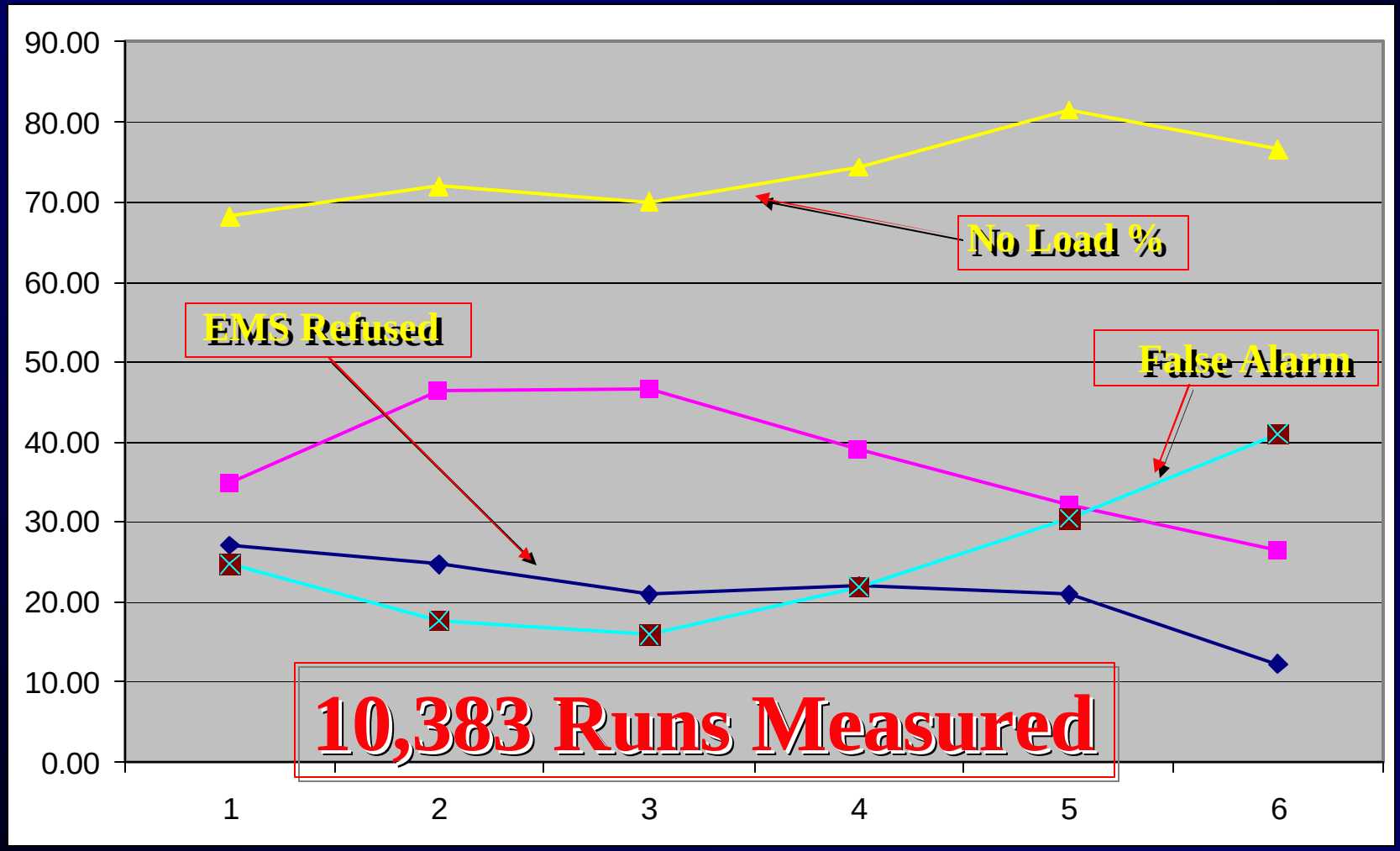
One year,
that shift had an
82% non-transport rate
compared to
59% no-load rate
for the other shifts

So, when we went to develop a "Policy for Non-transport",

we went to the professionals!

And, after working with them, their "EMS Refused" rate went down and their "false alarm" rate doubled

The Notorious Shift



We did what we had to do

We nuked their team

SOLUTIONS!!

- **UNIFORM SYSTEM POLICY**
  - **ALL AGENCIES**
- **ADDITIONAL PARAMEDIC EDUCATION**
  - **INITIAL & CONTINUING**
- **PROMPT AUDITS & OVERSIGHT**
- **REMEDIATION**
- **DISCIPLINARY ACTIONS**

The Dallas Situation

Answers:

- **Electronic PCR's**
- **Anecdotal review**
- **Specific audits of problem providers**

The Dallas Situation

Electronic PCR

The answer to a prayer
for large urban systems

The Dallas Situation

Electronic PCR

Send to my email inbox every morning every chest pain above the age of 35 who was non-transported and who did not get a 12 lead

The Dallas Situation

Electronic PCR

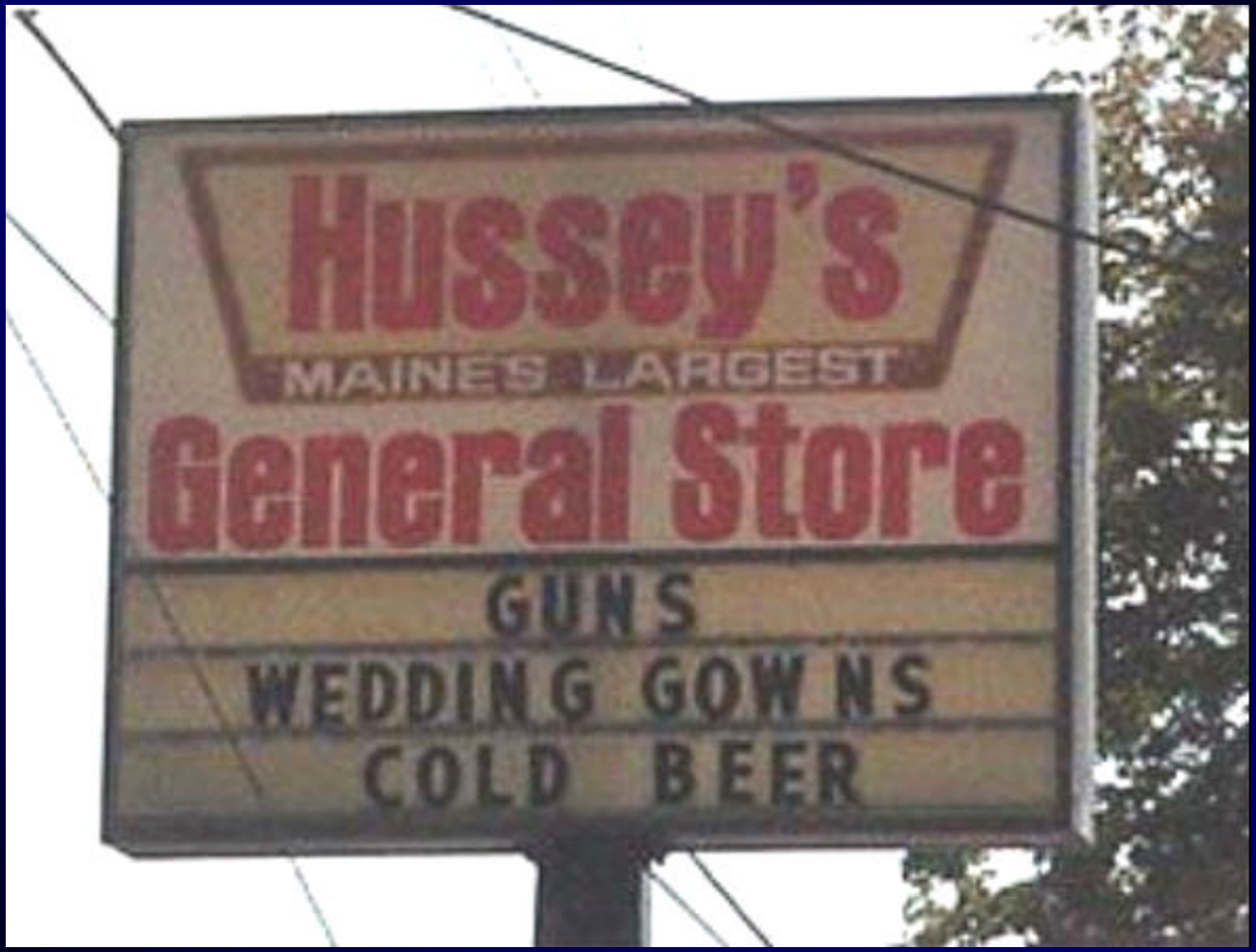
Send to me every no-load

by station 7xx Shift B that was above the age of 65

The Dallas Situation

Electronic PCR

Indeed: Send me ANY run forms from Shift B that did not meet specific Mandatory Transport guidelines


Hussey's
MAINES LARGEST
General Store
GUNS
WEDDING GOWNS
COLD BEER

Mandatory Transports

Remember!

Why did they call you to "take their blood pressure"???

Because they're off meds, they're having a headache or chest pain…

…and they're scared…

…and they're scared…

…of cost…
…of illness…
…in denial…
…leaving home…
…going to hospitals…
…even, of you perhaps…

…and they're scared…

the same things
that you and your family
would be scared about

…and they will sue your a-- off if you screw up…

In examining and rendering an opinion of the "need for an ER visit", you are being asked to do something that you are not trained to do

EMS Field Experience is not enough to predict the need for ER treatment and hospitalization in MOST cases

And the lure to be able to express an opinion is intoxicating

Adult Vital Signs:

- SBP < 90
- Pulse > or = 100 at rest
- Any fever, defined as a temperature above the patient's normal temperature
- Abnormal respiratory rate for the patient's age
- Blood glucose < 60
- Oxygen saturation <94% on room air

Cardio-Respiratory:

- Any patient who complains of shortness of breath or difficulty in breathing
- Any patient, with or without cardiac history, who complains of chest pain or discomfort.
- The area of the chest includes an area from the jaw to the waist, anterior and posterior,
- including the back and the arms.
- A DBP >110 or any blood pressure >140/90 in a pregnant patient.

Abdominal pain associated with any of the following:

- Vomiting
- Fever
- Any recent abdominal surgery, including C-sections and abortions
- Abdominal pain radiating through to the back
- Any vomiting of blood, blood from the rectum, or tarry stools

Overdoses:

- All intentional overdoses
- Accidental overdoses:
  Contact Medical Control for Disposition

Neurological:

- Altered mental status
- Passed Out Prior To Arrival (POPTA)
- Seizures under the following conditions:
  - ✓First time seizure
  - ✓Patient with active seizure activity
  - ✓>1 seizure
  - ✓Pregnancy
  - ✓Fever
  - ✓Associated with trauma
  - ✓Prolonged post-ictal state >15 minutes
- Focal motor or sensory deficits or slurred speech

Pregnancy:

- Seizure witnessed or by history
- Active contractions
- BP >140/90
- Vaginal bleeding
- Fever

Age:

Any patient > 65 years of age with ANY complaint except:

- **Medication refills AND medical history, primary survey, and secondary survey reveal no acute problems**
- **Requesting transport to a doctor's appointment AND assessment reveals no acute problems**

Age:

WHICH MEANS THAT YOU HAVE TO TALK TO AND EXAMINE THE PATIENT!!!

Age:

- Any minor, defined as <18 years of age, who meets ANY Medical Control definitions of medical illness.
- Parents present with the minor may refuse care and transport on the behalf of the minor, but they must sign a statement of refusal, as defined above.

Age:

If the minor has an actual or potential injury, a medical history suggestive of a life-threatening illness, or abnormalities of the primary or secondary survey suggestive of a life-threatening illness, Medical Control should be contacted to assist in persuading the parents to permit transport.

Trauma:

Motor vehicle collisions of any type, including pedestrians struck, will be encouraged to accept treatment and transportation to the hospital. This will apply even if no apparent injury exists.

Stab and puncture wounds to the head, neck, trunk, or proximal extremities will be transported.

Stab or puncture wounds to the distal extremities will be transported if there is evidence of arterial injury (cool extremity, diminished pulse, decreased capillary refill) or active bleeding.

- **Fractures, or suspected fractures, with the following signs or symptoms must be transported:**
  - ✓ **Open wound adjacent to the fracture site, including any non-intact skin in this area**
  - ✓ **Tenting of the skin**
  - ✓ **Any long bone fracture, open or closed**
  - ✓ **Any fracture involving the trunk or spine**
  - ✓ **Any fracture associated with neurovascular compromise**
- **Any amputation or near amputation**
- **Any head injury**
- **Any patient with major traumatic injuries, or who has a mechanism for a major injury, even if there is no apparent injury, must be transported to a Trauma Center.**

In the BioTel system these centers are:

Parkland Hospital
Baylor Medical Center
Methodist Medical Center

Burn Patients:

Adult burn patients will be transported to Parkland Hospital Emergency Department

Pediatric burn patients with major or moderate burns (including chemical or electrical) will be transported to Parkland.

Major and moderate burn injuries meeting the criteria include:

- **>10% body surface area partial thickness burns**
- **>2% body surface area full thickness burns**
- **Burns involving the face, ears, eyes, feet, hands, or perineum**
- **Any electrical burn**
- **Chemical burns, excluding isolated eye injuries,**
  which will be transported to the closest appropriate facility

Pediatric burn patients with minor injuries will be taken to CMC:

Minor burns include:

- **Isolated inhalation injuries**
- **Minor or small (<2% TBSA) isolated burn injuries (excluding hands, feet, and perineum).**
- **Chemical burns isolated to the eyes.**

Pediatric burn injuries of any severity that present with respiratory or cardiovascular compromise will be resuscitated at CMC.

Any questions regarding hospital destination should be directed to BioTel

Transportation of Abandoned Infants:

When EMS personnel are called to any location to retrieve an abandoned infant, the infant must be transported to CMC.

Child protective services must also be contacted

EMS Refusal

EMS Refusal:

The Paramedic May Deny Transport IF:

The patient has NO medical history indicating the possibility of an emergency medical condition, is hemodynamically stable, AND does not meet the above transport criteria.

The EMS provider must provide a written statement that demonstrates why the patient does not meet the transport criteria. Medical history, vital signs, mental status, and the results of the primary and secondary surveys must be documented, including why, in the Paramedics' judgment(s), the patient did not require EMS transport.

If the patient meets ANY of the criteria discussed in this policy, MEDICAL CONTROL will be contacted before the patient is discharged from care.

The ADMINISTRATOR will promptly review the record of any EMS refusals of care.

Do NOT be a hero!

You MAY *NOT* imply that the patient is safe to remain at home

Examples:

- *Lacerations, punctures*
- *Fevers*
- *The diabetic who comes around*
- *Brief LOC that is resolved*
- *Chest pain that is resolved*
- *Vomiting in the elderly*

Give me three reasons that a diabetic will be found hypoglycemic!

Taking insulin without eating:

Ignorance

An acute illness:

Sick

Medications change:

Situation not stable

There are NO other reasons!!!

On the times that YOU have no-loaded a hypoglycemic, have you RULED OUT all of these ?

#1 – Ignorance

#2 – Sick

#3 – Medications change

Did you determine that an emergency was present or not?

#1 – Ignorant
#2 – Sick
#3 – Medications change

Aren't we lulled into an odd mix of issues:

Emergency medicine

vs.

Public Health

Hope for the Future:

EMS becomes a mix of emergency medicine and public health

Hope for the Future:

The EMS Scope of Practice Project

Hope for the Future:

Training in 2010 may *INCLUDE* how to determine that patients do not have emergency conditions and can be linked to other public health venues

Summary Thoughts …

Do NOT
be a GUNSLINGER!

You have NOTHING to prove by NOT transporting a patient

You may NEVER try to talk a patient out of going to a hospital to serve your needs

That is a sin…

It is wrong…

It may hurt somebody…

…and it may end your career in ruins…

"It isn't what it ISN'T,
but what it MIGHT BE
that will get you
in trouble…

…and possibly harm
your patient!"

Remember the Moral Imperative


www.utsw.ws
www.biotel.ws

Questions or Comments?


www.rayfowler.com