



# Uncapping Their Highest Potential: Putting Policy Into Action With Army Medics

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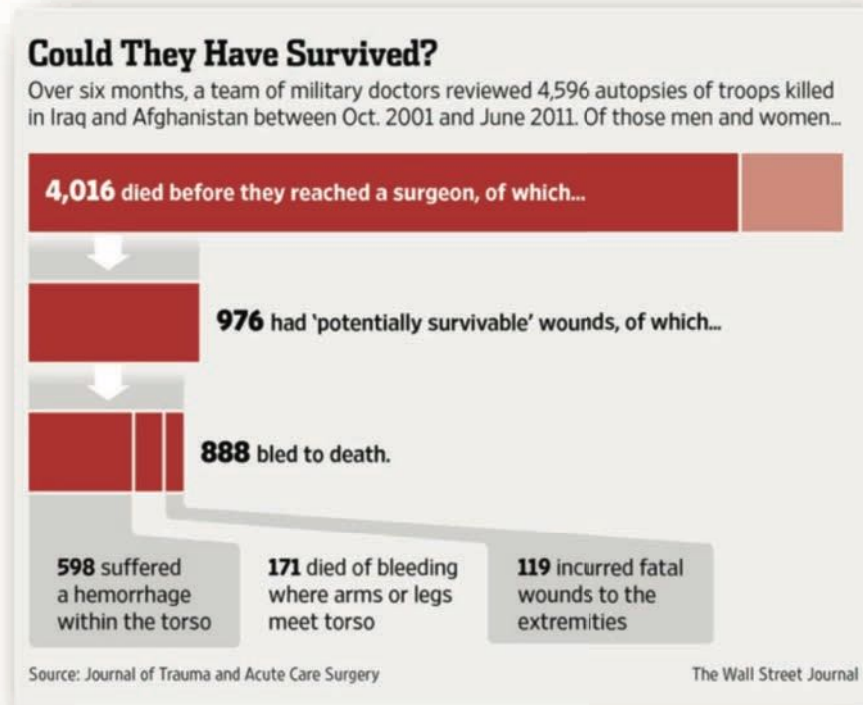


# Background

- 90% of all battlefield deaths occur prior to reaching a medical treatment facility
- Evidence from Retrospective Reviews:
  - **24%** potentially survivable battlefield deaths in OIF/OEF from 2001-2011 (976 Service Members)

- Study compared Ranger Regiment to Line Unit-better outcomes d/t unit focus:

1. Marksmanship
2. Physical Training
3. Small Unit Tactics
4. **Medical Training**

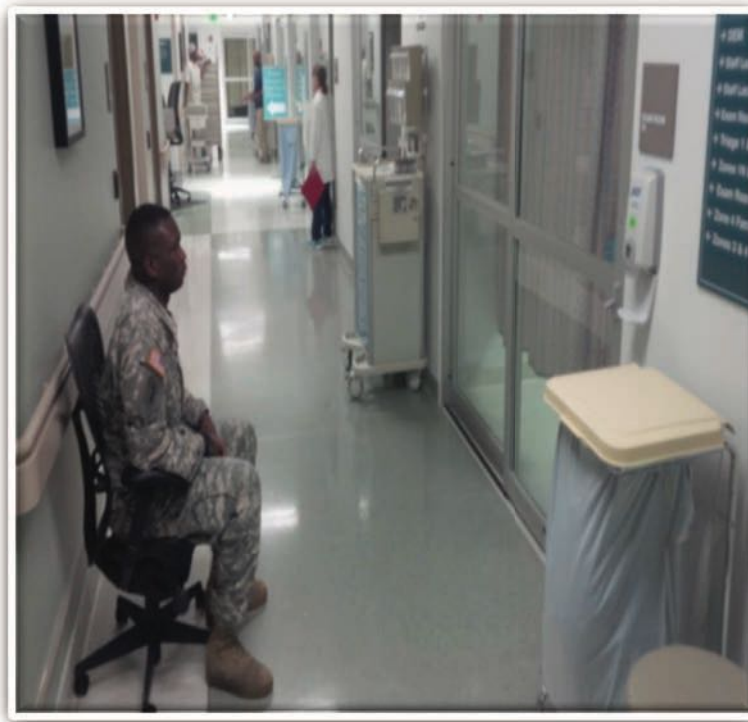


1 Death on the battlefield (2001-2011): Implications for the future of combat casualty care. Eastridge, B. et al. *J Trauma Acute Care Surg*, Volume 73, Number 6, Supplement 5

2 Eliminating Preventable Death on the Battlefield, Kotwal, R. et al. *Arch Surg*. 2011;146(12):1350-1358

# Background

- Medcom Regulation 40-50
- Officer of the Surgeon General (OTSG) memorandum of understanding





# Method

- 5 68W EMT-Basics and new EMT-Paramedics assigned to the ED
- 12-week program
  - Didactic class
  - On floor with preceptor
- Precepted by nurses on the floor, provider oversight for specific non-nursing skills
- Each week is specific body system (i.e. cardiology, dermatology...)

| Date                       | Monday 27 Mar 17         | Tuesday 28 Mar 17        | Wednesday 29 Mar 17 | Thursday 30 Mar 17   | Friday 31 Mar 17      |
|----------------------------|--------------------------|--------------------------|---------------------|----------------------|-----------------------|
| <b>Class Introduction</b>  | <b>Infection Control</b> | <b>Assessment</b>        | <b>Pharmacology</b> | <b>Documentation</b> | <b>Clinical Intro</b> |
| Instructor                 | R. Paul                  | R. Paul                  | R. Paul             | R. Paul              | R. Paul               |
|                            | 3-Apr                    | 4-Apr                    | 5-Apr-17            | 6-Apr-17             | 7-Apr-17              |
| <b>Class Enviro/FVR</b>    | <b>A/P</b>               | <b>Protocols</b>         | <b>Pharmacology</b> | <b>Clinical</b>      | <b>Skills</b>         |
| Instructor                 |                          | Dr. Henderson            | R. Paul             |                      | M. Wallace            |
|                            | 10-Apr                   | 11-Apr                   | 12-Apr              | 13-Apr               | 14-Apr                |
| <b>Class Derm</b>          | <b>A/P</b>               | <b>Protocols</b>         | <b>Pharmacology</b> | <b>Clinical</b>      | <b>Skills</b>         |
| Instructor                 |                          | Dr. Henderson            | R Paul              |                      | Provider ?            |
|                            | 17-Apr                   | 18-Apr                   | 19-Apr              | 20-Apr               | 21-Apr                |
| <b>Class Cards</b>         | <b>A/P</b>               | <b>Protocols</b>         | <b>Pharmacology</b> | <b>Clinical</b>      | <b>Skills</b>         |
| Instructor                 |                          | Paul                     | R. Paul             |                      | K. Kaifas (interp)    |
|                            | 24-Apr                   | 25-Apr                   | 26-Apr              | 27-Apr               | 28-Apr                |
| <b>Class Cards</b>         | <b>A/P</b>               | <b>Protocols</b>         | <b>Pharmacology</b> | <b>Clinical</b>      | <b>Skills</b>         |
|                            |                          |                          | R. Paul             |                      | M. Wallace (skills)   |
|                            | 1-May                    | 2-May                    | 3-May               | 4-May                | 5-May                 |
| <b>Class GI</b>            | <b>A/P</b>               | <b>Protocols</b>         | <b>Pharmacology</b> | <b>Clinical</b>      | <b>Skills</b>         |
| Instructor                 |                          | Paul                     | R. Paul             |                      | K. Kaifas             |
|                            | 8-May                    | 9-May                    | 10-May              | 11-May               | 12-May                |
| <b>Class Ortho</b>         | <b>A/P</b>               | <b>Protocols</b>         | <b>Pharmacology</b> | <b>Clinical</b>      | <b>Skills</b>         |
| Instructor                 | R. Bennett               | Paul                     | R. Paul             |                      | Ortho Tech            |
|                            | 15-May                   | 16-May                   | 17-May              | 18-May               | 19-May                |
| <b>Class Neuro / Ophth</b> | <b>A/P</b>               | <b>Protocols</b>         | <b>Pharmacology</b> | <b>Clinical</b>      | <b>Skills</b>         |
| Instructor                 |                          | Dr. Henderson            | R. Paul             |                      |                       |
|                            | 22-May                   | 23-May                   | 24-May              | 25-May               | 26-May                |
| <b>Class Airway / Pulm</b> | <b>A/P</b>               | <b>Protocols</b>         | <b>Pharmacology</b> | <b>Clinical</b>      | <b>Skills</b>         |
| Instructor                 | R. Bennett               | Dr. Henderson            | R. Paul             |                      | Dr. Reed              |
|                            | 29-May                   | 30-May                   | 31-May              | 1-Jun                | 2-Jun                 |
| <b>Class GYN / GU</b>      | <b>MEMORIAL DAY</b>      | <b>Protocols/A&amp;P</b> | <b>Pharmacology</b> | <b>Skills/Review</b> | <b>Exam</b>           |
| Instructor                 | OFF TODAY                | Dr. Henderson            | R. Paul             | R. Bennett           | R. Paul               |



# Method

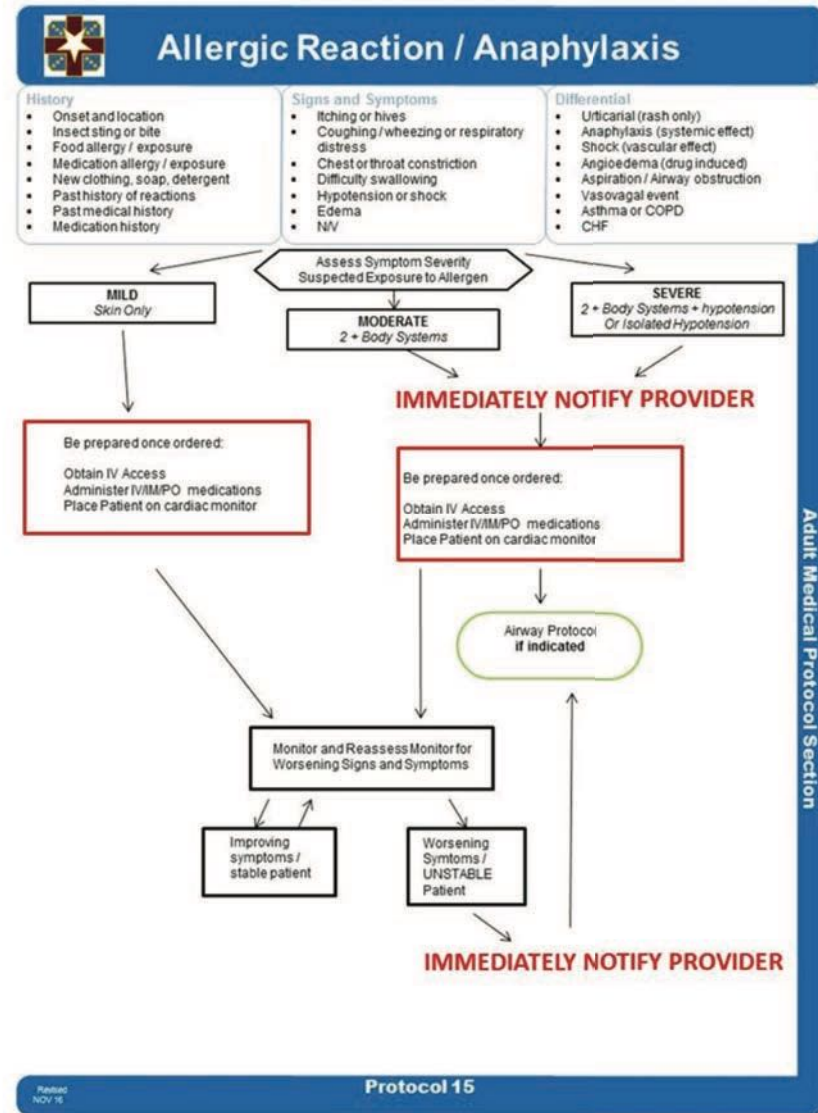
## Skills

|                      |   |                     |   |
|----------------------|---|---------------------|---|
| <b>Injury / EMT</b>  | <b>Skills</b>   | <b>Derm</b>         | <b>Skills</b>   |
|                      | Rectal temp<br>Cath UA<br>IV/IO Access<br>IV Abx<br>Throat / Nasal Swab<br>Cooling / warming<br>Istat                                     |                     | Suturing<br>Abscess I/D<br>Wound Care<br>Subungual hematoma<br>Toenail removal<br>Burn Care               |
| <b>Cardi</b>         | <b>Skills</b>   | <b>GI</b>           | <b>Skills</b>   |
|                      | Obtain 12 lead<br>Place Pt on monitor<br>ID emergent ECGs<br><br>V Fib/V tach<br>SVT<br>A fib/flutter<br>Bradycardia<br><br>LifePak usage |                     | NG/OG tube<br>Fecal occult blood<br>Blood typing cards  |
| <b>Ortho</b>         | <b>Skills</b>   | <b>Neuro / Opho</b> | <b>Skills</b>   |
|                      | Upper ext splint<br><br>Lower ext splint<br><br>correctly size crutches   |                     | Fluorescein stain<br>Flush w/ morgan lens<br>MMSE<br>intra ocular pressure<br>Snellen chart<br>Woods Lamp |
| <b>Airway / Pulm</b> | <b>Skills</b>   | <b>GYN/GU</b>       | <b>Skills</b>   |
|                      | Nebulizer<br>Epipen<br>Assist ETT<br>O2 / suction<br>CO2 monitoring<br>airway adjuncts  |                     | Assist w/ pelvic<br>obtain child/infant VS<br>Peris physical exam<br>child/infant UA Cath                 |

30 Week Didactic with clinical portion. 2 weeks clinical internship = 12 weeks total

Example of drug book

| ALBUTEROL  | TRADE NAME             |                            |
|--|------------------------|----------------------------|
|  | Proventil / Ventolin   |                            |
| INDICATIONS  | ADULT                  | PEDIATRIC (< 12 years)     |
|  | DOSE   ROUTE           | DOSE   ROUTE               |
| Bronchospasm   | 90 mcg/puff   INHALER  | 90 mcg/puff   INHALER      |
|  | 2.5-5.0 mg   NEBULIZER | 2.5-5.0 mg   NEBULIZER     |
| Acute Asthma Exacerbation  | 90 mcg/puff   INHALER  | 90 mcg/puff   INHALER      |
|  | 2.5-5.0 mg   NEBULIZER | 2.5 mg   NEBULIZER         |
| CONTRAINDICATIONS  |                        |                            |
| ✓ Hypersensitivity to albuterol or any component of the formulation<br>✓ Symptomatic tachycardia   |                        |                            |
| SAFETY IN LACTATION  |                        | SAFETY IN PREGNANCY        |
| SAFETY UNKNOWN   |                        | CLASS C – UNCERTAIN SAFETY |
| ADVERSE REACTIONS / PRECAUTIONS  |                        |                            |
| ✓ Risk of abortion during 1st or 2nd trimester<br>✓ Headache, Dizziness, Flushing, Diaphoresis, Tremor, Weakness<br>✓ Angina, A-Fib, Arrhythmia, Chest Pain, Palpitations<br>✓ Dyspnea, Bronchospasm in asthmatics |                        |                            |
| MECHANISM OF ACTION  |                        |                            |
| ✓ Beta2 Agonist (Bronchodilator)<br>✓ Synthetic sympathomimetic that relaxes bronchial smooth muscle, causing bronchodilation, with little cardiac impact.<br>✓ Onset of action is 2-15 minutes                    |                        |                            |



Example of protocols





# Method: Validation

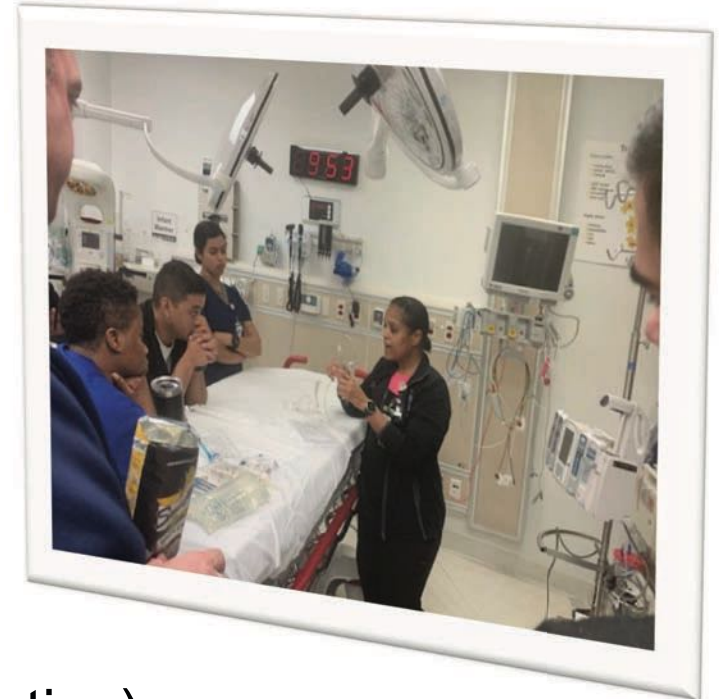
- All skills validated by a competency check off sheet
- Preceptors must have orientation on the training program and their role in mentoring the medics
- Preceptors complete an evaluation at the end of 12 weeks
- Pre-test, weekly quizzes, homework and post-test completed





# Measurement of Data

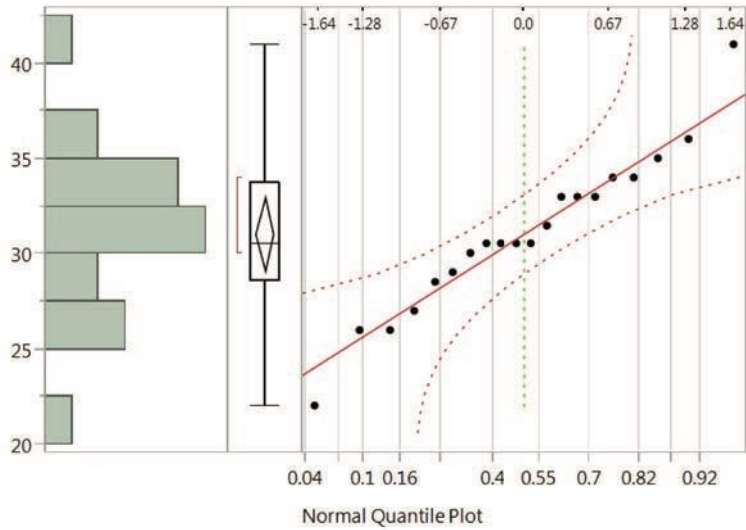
- Post test knowledge exam:
  - Compare overall improvement
  - Compare EMT-B vs Paramedic scores
- Medication Errors
- Patient Safety Reports (PSR)
- Patient Comment Cards (positive or negative)





# Results-Overall

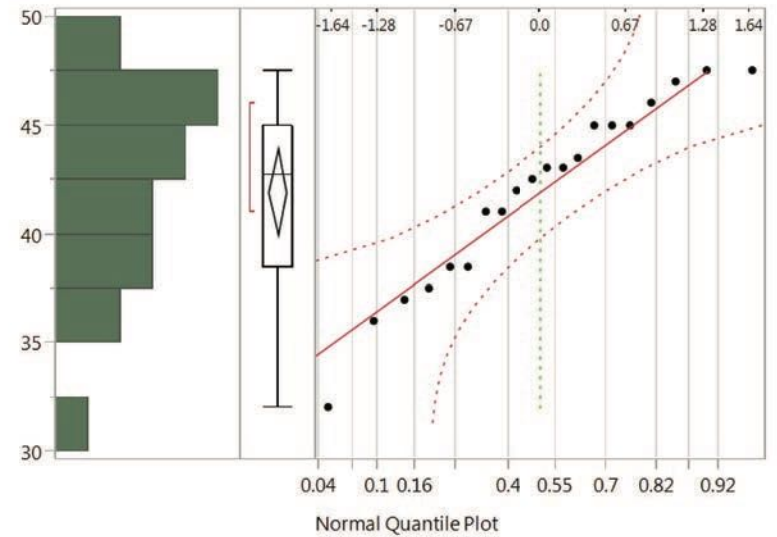
## Overall Pre Test Scores



<sup>a</sup>The following are univariate statistics for the pretest.

|         |       |
|---------|-------|
| N       | 20    |
| Mean    | 31.05 |
| Std Dev | 4.17  |
| Minimum | 22    |
| Maximum | 41    |

## Overall Post Test Scores



<sup>a</sup>The following are univariate statistics for the posttest

|         |       |
|---------|-------|
| N       | 20    |
| Mean    | 41.93 |
| Std Dev | 4.23  |
| Minimum | 32    |
| Maximum | 47.5  |





# Organizational Change

- Hospital leadership mandated all medics go through paramedic school
- Medic program became Paramedic Residency Program
- Changed utilization for entire hospital-new paramedic policy implemented

