Why do we change?

Changes are for the benefit of patient care

- Follow evidence (research) and best practices
- Use our data to identify ways to improve care
- We want the best outcomes
  - Want good results from what we do
  - Want safe medical practices

One question the EMS agency and I get asked not infrequently is why things are always changing and why can’t things just stay the same. Procedures and treatment guidelines are changed because medicine is a dynamic process. Well-performed research is an important issue, as well as looking at our own results. But underlying this is that we want to improve what happens to patients as a result of what we do, their outcomes. We need to be safe and we need to always weigh the benefits and the risks of what we do.
What are the big changes?

- Airway management
- Communications - report structure
- Pediatric drug charts
- New pediatric hypoglycemia approach
- Treatment guidelines
  - Furosemide is being eliminated

All of these items are being changed with safety in mind.
Pediatric Airway Management

- No demonstrated benefit in survival or neurologic outcome with intubation

![Image](Effect_of_Out-of-Hospital_Pediatric_Endotracheal_Intubation_on_Survival_and_Neurological_Outcome_A_Controlled_Clinical_Trial.png)

- No significant differences in aspiration, gastric distention, or vomiting

This is obviously a major change in our system, and one that has been considered for several years. The main issue that has driven this decision is that research demonstrated no benefit to patients in terms of outcome. Having a plastic tube in the airway doesn’t lead to more survival or less complications than those who are managed with a basic airway, and in fact, some patients did worse when intubation was attempted. The key issue in the landmark research done in LA and Orange County wasn’t looking at the success rate of intubation, but at the difference it made for the patient in the long run.

The research did not show significant differences in survival or neurologic outcome. It did not show significant differences in terms of aspiration, gastric distention, or vomiting, and it did show slightly longer scene times with intubation. As Dr. Levitan stated in his recent visit here to teach intubation, patients die frequently with hypoxia, but rarely with aspiration. We do have antibiotics and improved ways of managing aspiration as well, so prevention of aspiration really is not nearly as critical an issue as it may have been 10-20 years ago.

Patients with respiratory arrest, although a only around 15 percent of cases, did worse with endotracheal intubation, and in general the outcomes were worse in intubated patients who did not have cardiac arrest. Patient survival in cardiac arrest was dismal in both groups (only 8%).
Pediatric Airway Management

- In our system, patients with failed intubations fared better than those successfully intubated (return of pulse)
  - In arrest cases, pediatric patients are intubated just as well as adults (~80%)
  - In non-arrest, no successful pediatric intubations in past 5 ½ years
  - No cases had documented BLS failure

So I felt it was important to see if our data reflected the research that had been done and I looked at nearly six years of data available, including the records of every case I could find in which intubation was attempted. We couldn’t repeat the research but we could see if it seemed valid to apply to our system, and I think it does.

What I found in terms of basic outcome, return of a pulse in the field, was that our outcomes were better in those in whom we failed to intubate. In arrest cases, our success rates were similar to adults, but we were unable to intubate any patient who had a perfusing pulse at the time (excluding a single patient who had meconium suction via ET tube, the only case in around 10 years of having that procedure available).

And in the 72 cases I looked at, not one said that BLS ventilation had failed, despite the fact that our treatment guideline has for years directed intubation to only be used when BLS ventilation fails.
Pediatric Airway Management

- The approach:
  - Pediatric patients under 40 kg will be managed with BLS Airways only
  - Uncuffed tubes will be removed from the equipment carried
  - Laryngoscopes and Magill forceps will remain for foreign body management
  - Air crews will still utilize intubation

Systems that limit pediatric intubation have to choose a point that divides who can and can’t be intubated. Our approach will be the estimated weight of 40 kg.

Air crews will still utilize intubation. RSI, or the ability to paralyze for intubation, is a tool that they can use to improve chances of success in living patients. Outcome studies utilizing RSI show potential benefit, but we do not have that tool available in the field.
Pediatric Airway Management

- Why 40 kg?
  - Above 40 kg, airway anatomy starts to approach adult features and maintenance of a BLS airway becomes more challenging
  - Easy to estimate – if the patient is taller than the Broselow tape, weight is likely >40 kg.
Pediatric Airway Management

- BLS Airway is the most effective airway management for pediatric patients in the field
- The decision is supported by:
  - Local ED physicians
  - CHO ED staff
  - CHO Trauma chief

It is important to know that this change has wide support among physicians in the area.
Pediatric Airway Management

- This change *is not* a reaction to intubation success rates.
- Intubation of living patients (of all ages) *is* difficult, and is not something that can be overcome by more training.
- With no clear evidence of patient benefit, it is hard to defend continuing the practice.

So to summarize, this change is not in any way an issue with intubation success. It is an issue with patient outcome.
Pediatric Airway Management

- The bottom line:
  - Good BLS airway management is critical to providing the best care for patients
  - This change is made *in the interest of the patient*

We have a separate skills module on pediatric intubation as part of this update. It is critical that we do not overventilate patients and that we use a proper approach, which will be reviewed in the skills module.
Pediatric Drug Charts

- Pediatric weight-based drug charts being replaced with color-based charts
- Colors correspond to length-based (Broselow) tapes
- Some medications differ or not on Broselow tape
  - Lidocaine (IO pain) differs
  - Midazolam, Morphine, D10 not on tape

Another big change is the move to “color-based” charts for pediatric drugs, rather than doses based on individual weights. Pediatric drug charts that show doses based on individual weights are being replaced with color-based charts that follow the length-based tapes.

Many other systems have done this, and we believe it will lead to safer practice. While the dosages may not be as “exact” when using color rather than a specific weight, the effect of minor differences in those dosages is nil.

Most of the medication dosages follow the doses that are on the length-based (Broselow) tapes, but not all medications are listed on the tape and our lidocaine dose differs from Broselow. So the charts are needed.
We have worked to formulate the chart in a way that will be helpful by listing the total volume of drug on the left hand side along with the drug name. The concentration and total dose are on the right hand side, and you should look at these in detail – you should have a handout showing these.

One feature is that we have listed epinephrine 1:1000 in red to differentiate from the Epi 1:10,000. We have had rare errors in use and we hope this is a helpful alerting mechanism. Epi 1:1000 is never given IV – it should only be given subcutaneously or IM.
Pediatric Drug Charts

- **Lidocaine dosages**
  - Our charts = dose for treatment of IO infusion pain
- **Lidocaine on Broselow tape**
  - Refers to dose for treatment of arrhythmia (not used here)
- **Amiodarone used in Contra Costa for arrhythmia**

<table>
<thead>
<tr>
<th>ADMINISTER</th>
<th>MEDICATION</th>
<th>CONCENTRATION</th>
<th>DOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.26 ml IO</td>
<td>Lidocaine 2% (IO pain)</td>
<td>100 mg / 5 ml</td>
<td>5.25 mg</td>
</tr>
</tbody>
</table>

The drug charts mirror Broselow in most instances, but the exception is Lidocaine. We also recommend using the charts rather than the tape to get exact doses because our doses for midazolam, morphine, and lidocaine are not listed on the tape. Lidocaine is used only for treatment of pain with IO infusion, a much smaller dose than would be used in arrhythmia. We are using Amiodarone for arrhythmia.
Pediatric Drug Charts

- Morphine, amiodarone, and lidocaine are not included on newborn (gray) card
- Gray card uses 4 kg as an average weight

It was also decided that for the tiniest patients (3-5 kg), use of morphine, amiodarone, and lidocaine aren’t really appropriate so they are not listed.

While Broselow has separate doses for 3, 4, and 5 kg patients on the card, we have chosen one dose (4 kg) for all in that weight range.
Pediatric Drug Charts

- Morphine drug doses and pain scale tool are separated from other drug charts.

- Dosing for IM and for IV morphine are on separate charts

Morphine is separated from the others drugs because the dosing is more complex and would not fit easily on the other cards. There are separate cards for IM and for IV.
Pediatric Pain Medication Cards

Larger children (above 18 kg) can have their dose titrated up to 10 mg, whereas smaller children have a more limited maximum dosage. That means that if the dose listed does not appear adequate, base contact is required (not a change from current practice).

The pain scale tool (faces) is an important feature of the cards. This is something that should be used in assessment of pediatric patients with pain. There is an association between pain assessment and treatment and it is hoped that use of the pain scale tool may lead to more pain relief for patients.

The pain scale tool is used by showing the child the chart and asking them to pick out their pain level (not your interpretation of what their face looks like).
Pediatric Hypoglycemia

- D25 is being replaced by D10
- Dose is 5 ml/kg (0.5 g/kg)
  - A 250 ml bag of D10 is equal to one amp of D50 (25 grams of dextrose)
- Cost is equivalent to other dosage forms

Another big change, though used infrequently is that we are replacing D25 with D10 for treatment of hypoglycemia in pediatric patients age 14 and under.

Dose is 5 ml/kg (0.5 g/kg)

A 250 ml bag of D10 is equal to one amp of D50 (25 grams of dextrose)

Cost is equivalent to other dosage forms – they’re both pretty cheap compared to many medicines.
Pediatric Hypoglycemia & D10

- Safety Profile
  - Decreases risks for med errors
    - Requires no dilution (age 0-14)
    - Simple calculation
    - Pedi pre-calculated dose card
  - Avoids risks of vein irritation & thrombosis
  - Preserves vascular access in young children with fragile veins.

D25 use required dilution of D50 (small D25 doses not enough for most patients)
While done infrequently, dosing or documentation was often unclear
Both D25 and D50, when infiltrated subcutaneously, can cause significant skin sloughing and also irritation/thrombosis of veins.
Pediatric Hypoglycemia

- D10 avoids the potential for significant skin damage if infiltrated
- D10 administration volume also allows for slower administration making rapid glucose swings less likely.

Hypoglycemia ⟷ Hyperglycemia

So safety is the key issue with treatment. With D10, no dilutions are needed, and there is much lower risk of tissue damage from infiltrating medication. Tissue damage can still be an issue for adults so it is critical that those IV’s be patent. And in many patients the rapid infusion of higher concentrations leads to wider swings in glucose. While we frequently overshoot the normal range,
Administration of D10

- IV NS should be started (100-500 ml bag)
- If small amount D10 required, draw up into a 10-20 ml syringe from D10 bag.
- Give IV Push through IV port closest to the patient in 10-20 ml amounts until entire dose delivered
- If larger amounts (> 100ml) or entire dose needed, D10 can be run in as a piggy-back.

D10 comes in a 250 ml bag. If only a small amount is needed (for smaller children) this can be administered by withdrawing from the D10 bag and infusing the medication in the IV line. If a larger amount is needed (or the entire bag), it can be hung as a piggyback to the NS, being sure that it is the D10 that is infusing.
D10 Administration Practice

This is a time when administration can be practiced (e.g. for 10 kg child and for 40 kg child)
Other Key Prehospital Care Manual Changes
**Tube Confirmation/Monitoring**

- Key points:
  - ETCO2 needs to be used and documented in all cases – both ET tube and King Airway
  - Esophageal detector device (bulb) is only of value when there is no CO2 detected and *should not be used* with King Airway
  - Examples of ETCO2 waveforms are in the manual.

This section has been rewritten to emphasize some important points. ETCO2 is the main way we prove initial placement of the endotracheal tube and the way we prove ongoing patency before hand-off at the hospital. We still see frequent documentation of the esophageal detector bulb being used with the King Airway. That device should not be used.

We know that ETCO2 is a relatively new technology. We have provided examples of what the waveforms may look like in the manual.
M2-Allergic Reaction/Anaphylaxis

- Epinephrine 1:1000, 0.3-0.5 mg IM is the drug/route of choice with allergic reaction involving airway, wheezing or hypotension
- Dosage range - judgment issue
  - Larger patient / younger patient / more severe symptoms - higher dose
  - Smaller / older patient / less severe symptoms or heart disease - lower dose

Our treatment guidelines have been divided into two separate items – hopefully for more clarity:

M2 – allergic reaction or anaphylaxis (without shock)

M3 – anaphylactic shock

The national recommendation is to give Epi via IM injection instead of subcutaneous, so that is a change. The dosage range remains for treatment of these – it is a judgment call as to whether to use a lower or higher dose based on patient size, age, severity of symptoms, and as well the known presence of heart disease.
Allergic Reaction/Anaphylaxis – M2

- Diphenhydramine (Benadryl) – should be used only for complaints of itching or rash
  - Does not provide any benefit for anaphylaxis itself

Diphenhydramine doesn’t help in true anaphylaxis and so this has been clarified.
Anaphylactic Shock – M3

- Protocol is now separate from M2
- Anaphylactic shock is more than just hypotension (need signs of poor perfusion)
- IM Dosing of epinephrine 1:1000 initially
- Safety warning about IV epinephrine 1:10,000 – should only be in 0.1 mg doses
- Caution in patients with coronary disease

In anaphylactic shock, it is important to get epinephrine on board as quickly as possible. So an IM dose is recommended initially, while vascular access is being obtained. This is a change from prior, where we had recommended IV initially and IM only if the IV could not be obtained. Use of intravenous epinephrine 1:10,000 needs to be cautious. And remember, 1:1000 concentration is NEVER given intravenously. Any use of epinephrine can lead to problems in patients with CAD – in a patient in extremis however, the benefits certainly may outweigh the risks.

Again, diphenhydramine has been removed from treatment in anaphylactic shock. It has no bearing in the treatment of this disorder.
Allergic Reaction/Anaphylaxis – P10
and Anaphylactic Shock – P11

- Changes mirror those in the adult treatment guidelines
- Epinephrine 1:1000 IM is preferred treatment (0.01 mg/kg with max 0.3 mg)
- Caution that blood pressure may not be reliable sign of hypotension or shock – perfusion is more reliable (e.g. skin signs)

Picture of pediatric patient with angioedema of the face and hives. This is similar to the adult guideline – IM dosing is the preferred initial treatment.
Trauma, Pain Management and Burn Guidelines

- Changes - refer to morphine doses on charts (P14, P15, P17, P19 - renumbered)
  - In smaller children, starting dose is 0.05 IV and 0.1 mg/kg IM (base contact required if more needed)
  - In larger children (above 18 kg), starting dose 1-2 mg
  - Total dose in larger children can be titrated up to total of 10 mg

All of these guideline reflect changes in morphine dosing. This is more complex than simply a mg/kg issue, and careful titration is needed. The 0.1 mg/kg limit that we had in the past has not been sufficient in many cases – but we want to be more cautious in the smaller kids.
Acute Pulmonary Edema – P4

- Revised to reflect importance of CPAP and more prominent use of nitroglycerin
- Furosemide has been removed
  - Studies reflect more than 40% error rate in determining cause of SOB with potential for harm

This is another treatment guideline with major changes, and the changes reflect best practices and safety. CPAP has been very successful, and in assessing our treatments, we know that many patients only get a single dose of nitroglycerin. Multiple doses are appropriate.

Furosemide is associated with many potential side effects, both from the standpoint of overall fluid status and potassium. There are a number of studies that show that there is a high error rate with regard to diagnosis of CHF in the field. We do not have tools such as xray and old patient records to assist us as hospitals do. In one study, over 20% of patients who received furosemide needed a fluid bolus at the hospital.

The onset of action of furosemide is often quite delayed, and with aggressive treatments otherwise, that decision can be delayed until arrival at the hospital.
Acute Pulmonary Edema – P4

- “Load and go” condition
- Scene Priorities
  - NTG
  - CPAP when indicated
- IV access delays scene time
- Airway management in severe patients best done at the hospital

Pulmonary Edema needs to be considered more a “load and go” condition
Need to start NTG and CPAP at scene
IV access is not necessary on scene and frequently delays scene time
When most severe patients require advanced airway this is always better at the hospital where RSI is available if needed
Pulmonary edema is not generally a “stay and play” time of diagnosis, though we do see extended scene times in many cases. When a patient needs advanced airway management, that is best done at the hospital, so moving the patient rapidly makes sense. Aside from management of arrest, there is no need for IV access – and if there is an arrest, defibrillation and airway management take precedence. An IO can be rapidly obtained in an arrest situation if IV access is an issue. So delays on scene for IV access should be avoided.
Changes in the Critical Trauma guideline re-emphasize that delay on scene for IV or vascular access are not warranted and should not delay departure - IV access can be attempted en route. Many studies have been published recently that look at our field treatments in trauma, and neither IV fluid or advanced airways (without RSI) appear to help.
Fluid administration recommended only if hypotensive, and only enough to keep BP at 90 or above. When a patient has mild hypotension, research has shown that excessive bleeding happens – that clots which may form when the blood pressure is down slightly are actually blown out and bleeding may increase with aggressive fluid administration.
Critical Trauma - T1

- Best Trauma outcomes are dependent on getting the patient to the trauma center for intervention rapidly
  - Limit scene time
  - Rapid transport

For a critical patient, limiting scene time and rapid delivery to the trauma center is the most important issue.
QI/Best Practices Updates

Working at putting it all together!

Review key QI issues in our system
Need to include stats for King tube here. King tube use in non-arrests is really sub-optimal and should be avoided unless they literally cannot ventilate. Now that we are controlling most cardiac arrest airways well, we see the non-arrest intubations as being the biggest challenge. Among those, we see an occasional use of the ET tube when the pt has a narcotic overdose that is not known or suspected by history (which can certainly happen, especially with elderly patients or complex medical pts). So patients in whom the pulse and BP are reasonable, yet there is respiratory depression, narcotic effects should be considered. 2 person BLS airway highly effective.
King Airway

- Success Rate 92%
- Increases overall success rate of airway control
- Use is nearly double that of Combitube
- More use as primary airway (good)

The use of King Airway has led to improved airway management overall. In the past, up to 20% of patients we have tried to intubate ended up with no advanced airway. With the King Airway, that number is approaching 10%. The King Airway is being used more often overall, and more often as a primary airway compared to the Combitube.
King Airway

- Use in non-arrest situation in 12% of cases
- Patient must have no gag reflex
  - Patient’s motor activity can lead to vomiting and dislodgment of airway
  - Use in non-arrest cases should be rare – BLS airway is preferred

One item of concern is that King Airway has been used relatively frequently in non-arrest situations. This did occur on rare occasions with the Combitube but less often. The concern is that the King does not completely isolate the airway and in a few cases it has apparently not prevented regurgitation. So in a patient with airway reflexes, it may induce vomiting. And because it does not have the harder cuffs like the Combitube, it can be dislodged more easily. So it has the potential to worsen issues in some patients, and really should be avoided if the patient has any airway reflexes or motor activity.
Patient Selection for Intubation

- Intubation in non-arrests is only successful in around 40% of cases

- Should not be attempted if patient has motor activity or responds to painful stimuli such as an IV stick

As mentioned earlier, 10% of patients we try to intubate do not end up with an advanced airway. Most are not cardiac arrests. Some are discovered to have gag reflexes and the intubation attempt is aborted and BLS maneuvers are used. Some have repeated attempts. These are our highest-risk patients – they are alive and they’re not being ventilated or oxygenated when intubation is being tried. It can be hard to know whether a patient has a gag or not until you place the laryngoscope – but there is a clue if the patient has spontaneous motor activity other than respiratory effort or if they have any response to painful stimuli such as an IV stick.

It is critical that prolonged attempts at intubation be avoided in non-arrest patients. BLS management should resume promptly if difficulty is encountered in these non-arrest situations.
Two-person BLS Airway

- Jaw-thrust is very effective in opening the airway, particularly with two hands
- A second person can deliver the ventilation (slow squeeze, creating chest rise)
- Suction needs to be managed as well

And on the subject of BLS airway management, the use of two persons for this skill is highly recommended – in fact when the FDA initially approved use of BVM, it was as a two-person effort. Jaw thrust is the most effective way to open the airway and lifts the tongue off the back of the airway. To be done well, jaw thrust needs two hands, and that means other hands are needed to deliver breaths. This is not frequently done now, but it should be done more. And to reiterate, the goal is to see chest rise with BVM ventilation, and over-ventilation both in rate and volume delivered needs to be avoided.

Patients with BVM ventilation need management with suction, which really needs a second pair of hands as well.

The sniffing position (neck flexed on body, head extended on neck) is not only ideal for intubation but helpful in BLS airway management when cervical spine trauma is not a concern.
Chest Pain – 12-lead Best Practice

- 12-lead ECG should be done as soon as possible
  - EMT is an important team member in lead placement
- Ideally done before NTG administered
- Oxygen and Aspirin can be administered beforehand or at the same time as ECG
- Repeat ECG’s can be important!

Ideally the 12-lead should be done as soon as possible after the patient’s complaint of chest pain or other symptoms is recognized by EMS providers. If the history is suspicious (for example not clearly a traumatic injury as cause for pain), then the 12-lead should be done before any lengthy history is performed. This allows for the maximum advance notice of a hospital when a STEMI is encountered.

Some have voiced concerns about delay in administration of NTG in the setting of chest pain. It is important to remember that many patients have had pain for an hour or longer before they call 911, and a 2-3 minute wait to give NTG is not going to change outcome. Nitroglycerin helps treat pain, though it may not be enough with an MI. But research shows it does not change the patient’s outcome – that is related to the amount of heart muscle that is damaged – and rapid treatment of those blockages at the hospital (in the case of STEMI) are what does change the outcome.

We have also learned that some patients who are having a STEMI do not have an ECG that shows STEMI initially so repeat ECG’s are important. With the Lifepak 12, continuous monitoring with the 12-lead will lead to automatic performance of another ECG if the ST segments change. But with a Zoll machine, users need to repeat these manually.
Amiodarone Use

- Indication - Ventricular fibrillation
  - IV Bolus 300 mg, repeat dose is 150 mg
- Indication - Stable ventricular tach
  - 150 mg over 10 minutes
  - Can be given as intermittent IV push or as an infusion
- Post-Conversion of VF is not an indication for use

One of the issues we identified last year and we wish to mention again is the use of amiodarone. When given to a pulseless patient, boluses of 300 mg and then 150 mg are indicated. In patients with pulses however (stable V. tach) the drug should never be bolused, because it will cause significant hypotension. It needs to be given either as an intermittent IV push or as an infusion.

Use after conversion of VF is not an indication for amiodarone. This differs from lidocaine (our previous drug) and we have seen inappropriate usage in this situation on a few occasions since we started amiodarone.
Amiodarone Infusion

- Add 150 mg Amiodarone to 100 ml NS
- Do not use filter needle or mix rapidly because foaming will occur
- Administer via piggyback over 10 minutes (approx. 10 ml/minute)
- Monitor blood pressure

An amiodarone infusion is relatively simple, but there are issues with foaming that occur so slow mixing and avoidance of filter needles are important. The total volume will be just slightly over 100 ml, counting the added amiodarone, and adjusting flow based on your drip setting should be straightforward. If the drug is administered in 9 minutes or 11 is not critical, but it needs to be much slower than a bolus in order to avoid a sure complication of hypotension. Even with the infusion, the BP should be monitored since hypotension may still occur.
Vascular Access - IO

- IO - Have a plan for use!
  - Arrest – YES!!!!
  - Non-arrest criteria
    - Shock or impending shock
  - Not indicated
    - Pain relief
    - Narcan
    - Peripheral IV failure

IO in non arrest situations should be confined to shock or impending shock. IO’s should not be started for pain relief, narcan, vascular access simply because peripheral IV access has failed. Around 20% of IOs are used in non-arrest situations, and approximately 2/3 of uses in non-arrest situation are out of compliance with procedure guidelines, and around the same number are simply “TKO”. If you are thinking about starting an IO, you should have a plan for what you are going to use it for right away – if someone may need one later, it can be started later but shouldn’t be a “just in case” type of line.

While arrest patients won’t need lidocaine, some of our non-arrests have had significant discomfort from IO use. Remember lidocaine is a way to provide pain relief, and if possible, it is best to give lidocaine a minute or so to work before proceeding with other medication use. It is acceptable to use lidocaine in the original flush of the IO as well.
Vascular Access - IO

- Treatments with IM options (naloxone or glucagon) should be utilized before any consideration IO
- Use lidocaine for pain of IO - wait a minute if possible

We also have seen lines started and the only drugs given are naloxone or dextrose. If there is an IM alternative, it should be used. There is likely never a need for an IO to deliver naloxone.
Vascular Access – External Jugular

- Less reliability - 68% success in recent study
- IO preferred in arrest or shock
- IM alternatives should always be considered

While external jugular lines are not central lines, they are less reliable. We successfully get IO’s in 98% of adults. In arrest or shock, the success rate of EJ was less than 50% in a recent study. EJ lines can be trouble because they are positional, and because valves in the veins may impede flow.

Like the IO line, if a drug can be given IM such as naloxone or glucagon, that should be done before consideration of an EJ line.
Vascular Access - External Jugular

- Must be started with patient lying flat or (preferably) in Trendelenburg position
- Is not an ideal line for anyone with respiratory distress

There is a risk of air embolism with external jugular line placement and these should never be started with patients who are sitting up. For patients with severe respiratory distress, lying the patient down should not occur. In cases of shortness of breath, there are generally no “miracle” IV drugs that are be given so IV access, while nice to have, is not an initial priority. If a patient should crash, the immediate solutions generally involve airway management or perhaps defibrillation. An IO can be started rapidly after arrest. So EJ lines have limited usefulness.
It is an expectation that every EMS provider read EMS Best Practices and our STEMI News. These one page newsletters are key to our ability to communicate important feedback to the field so that we can all get on the same page. One of the most difficult parts of running any organization or EMS system is to be able to effectively communicate with your front line people.
EMS Virtual Advisors

- Anonymous Field Provider Group
- Open to EMT’s and Medics
- Participate via email in through anonymous surveys and electronic focus groups
- Time: Maximum of 1 survey per month on topics EMS working on

Topics EMS Virtual advisors have influenced
Communication
Hospital-EMS working relationships
Best Practices focus
BLS and ALS issues
Can join or leave at any time….no strings attached.