

Teaching the Tough Stuff

Dan Limmer

Welcome!

Much of EMS training and education is based on tradition.

I do what my instructor did.

In many ways this tradition has served us well.

We can always improve.

The Old Model

Patient has a history of a condition

Patient has a prescribed medication for that condition

EMT can assist with the prescribed medication.

Study finds paramedics skilled in identifying strokes

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March 28th, 2012 in Cardiology

(Medical Xpress) -- If a paramedic suspects a patient is having a stroke, the paramedic is probably right, a Loyola University Medical Center study has found.

Researchers examined if emergency medical services (EMS) paramedics were able to identify stroke patients with a 99.3 percent specificity. (In diagnosing disease, a high specificity rate indicates there's a high probability the patient actually has the disease.)

"If a paramedic thinks a stroke victim should be a stroke victim, they are probably right," said Dr. Mark Cohen, who heads Loyola's emergency room and is another co-author, said the findings illustrate that paramedics "are very well trained in stroke recognition." He added that stroke is one of many emergency conditions in which paramedics are trained to initiate treatment before the patient is brought to the hospital.

While the EMS specificity rate in identifying strokes was 99.3 percent, the sensitivity rate was only 51 percent. In other words, when paramedics suspected patients were having strokes, they were probably correct -- but they also missed many cases. Of the 96 actual strokes, paramedics correctly identified 49 cases, but missed 47. Paramedics were most likely to miss strokes in patients younger than 45.

Stroke cases, can increase one can miss one stroke occur a stroke permanent damage, one receive 49% to given a patient most strokes are caused by a clot (about 80 percent of strokes are caused by bleeding in the brain, in such cases, administering EPA could make strokes worse.)

Since every minute counts, hospitals are striving to reduce the "door-to-needle" time -- the length of time it takes from when a stroke patient arrives at the emergency room until the patient is given intravenous EPA. One way to reduce a waiting time is by having the ambulance radio ahead when it is bringing in an apparent stroke patient. Loyola's stroke team then is activated and ready to go into action as soon as the patient arrives, Cohen said.

In the study, Loyola researchers reviewed the records of 5,300 patients who were transported by EMS to Loyola between Oct. 1, 2010, and June 30, 2011.

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The big message first:

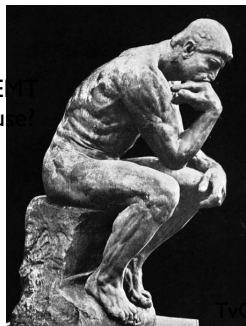
A lot of programs are adding more hours to do more of what they always do.

This is an opportunity to
change what we do to
become more effective.

We complain.
But will we do the work necessary
to create meaningful change?

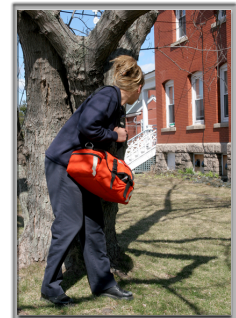
90% of Emergency
Medicine is in the
Cognitive Domain

What is the most
important quality in the E
that comes to YOUR hou



Providing quality EMS is a
series of important
decisions

We've been
teaching scene
safety all wrong



Wrong things we learned

Oxygen is the wonder drug

MOI = backboard

Suction for only 10-15 seconds

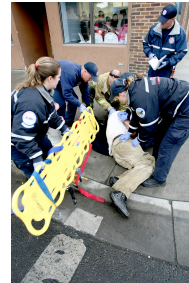
The brain begins to die in 4 - 6 minutes



20, 21, 22, 23

Importance of Clinical Problem Solving

- Unique environment
 - Uncontrolled situations
 - Rapid decision making and action
 - Lack of information
 - Attention divided between multiple tasks



Importance of Clinical Problem Solving

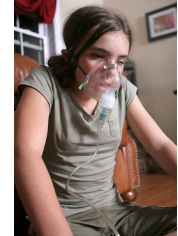
Errors are common; significant

Diagnostic errors are the most common & difficult to detect.

Critical vs. noncritical patients

Inaccurate initial diagnosis

Recognizing patient deterioration



Connoisseurship

A wine connoisseur detects subtle differences between wines.

His senses tell him the type, brand, and year.

Appreciation of differences develops through reflection on experience.

SAM

Connoisseurship in EMS

Subtle differences in patient presentation allow differentiation between problems.

Detecting differences requires active, critical reflection on experiences.

diff

Medical Model

Differential diagnosis

Possibilities to probabilities

Assess body systems based on differential approach.

Neurological



Endocrine



Cardiac and Respiratory



Abdominal/GI



Musculoskeletal



Shock



Differential Diagnosis

p2p

Think of all the things
that could be wrong.

Possibilities to Probabilities

Narrow it down
to the most likely causes.

try

Let's Try It...

A 54-year-old
woman passes
out while
climbing a
ladder.

A 54-year-old
man passes out
while watching
the football
game.

A 16-year-old
patient calls
because his
inhaler isn't
working

A 74-year-old
female awoke from
sleep with
difficulty breathing.

A 67-year-old
male has
difficulty
breathing and
increased mucus
production.

A 62-year-old
female is short of
breath and has
been sick for 2
days.

How does a student
identify criticality?

What does the new
EMS class look like?

Class models

Class meetings per week

Semester schedule

Length of class

Clinicals?

“Traditional” models may not work

The Five Tips:

Ditch the PowerPoints

Match Your Student's Lifestyle

Have your students BYOD

Change your lecture:active ratio

Let the students teach

ONE

Ditch the PowerPoints

I don't have to say why...

While PowerPoint can be interactive...

There is a reason it is called “Death by PowerPoint.”

And, quite frankly, it is easy.



When might you use PowerPoint?

Project anatomy art

Project onto dry erase board and “draw” on slides

Student or instructor created custom presentations to supplement active learning processes or PBL.

PowerPoint Slides Can

guide you in what to say

ask questions

present cases

give instructions

be interactive

What are the Alternatives?

PowerPoints are far from the best for learning.

Remember, teachers teach and students learn.

What did we do before PowerPoint and slides?

Let's go back there!

Thinking Strategies



Two groups:

One group develops a trauma scenario to specific criteria

The other group has to choose the "perfect" equipment to bring to the scene.

Assigned Self-Study

Aids in note-taking skills

Focus

Relate importance of material in class

TWO

Make Your Class Match
Your Student's Lifestyle.

Today's Students

Connected

Multiple Devices

Tech competent to savvy

Live with and by tech



It's Not That Easy...

Educators may be less connected than their students

We can't stereotype students or educators

A certain level of tech competence is required in EMS in 2017 and beyond

Technology

Podcasts

Video

Narrated PowerPoints

What else?

General Concepts

Keep it relevant

Shorter bites are generally better

Match the medium to the message

Be wary of file size

Easy Podcast Recording

\$59 and up (Amazon)

Allows you to record audio

Easily edited in free programs (Audacity)

Students always have headphones in their ears.



Podcast Tips

Outline first, don't script

Find a quiet place with minimal interruptions

Minimize other noise (shuffling papers, chair squeaks)

Use cloth and carpet to improve your sound.

Lecture Capture App

Inexpensive: \$0.99

Allows you to save as MPEG video

Save where you choose

Easy and simple recording



Camtasia

Camtasia gives you the tools to...



Record It All

Use Camtasia's powerful screen recorder to capture anything on your screen. Or, import camera video, music, photos, and more to truly customize your videos.



Create Powerful Videos

Edit and enhance your videos with Camtasia's powerful editor, ready-to-use themes, animated backgrounds, graphics, callouts, and more.



Engage Your Audience

Produce interactive videos with clickable links, tables of contents, search, and more. Then, easily share videos that your viewers can watch anywhere, anytime.

THREE

Have Your Students BYOD

Bring Your Own Device

We have been hesitant to have students use their electronic devices in class.

Distraction

Inappropriate materials

Why not take control of it?

Appropriate Device Use

Medical reference

Researching issues

Problem-based learning

Accessing textbooks

Exam review and preparation

Preparing presentations



Is there more?

Integrating Apps

Students are buying them.

Price is much less than textbooks.

Many apps are poor quality

Educators can guide students to quality

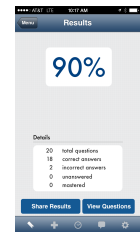
How do I Integrate Apps?

As class assignments

As extra credit

As remediation

As a game or contest

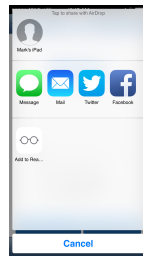


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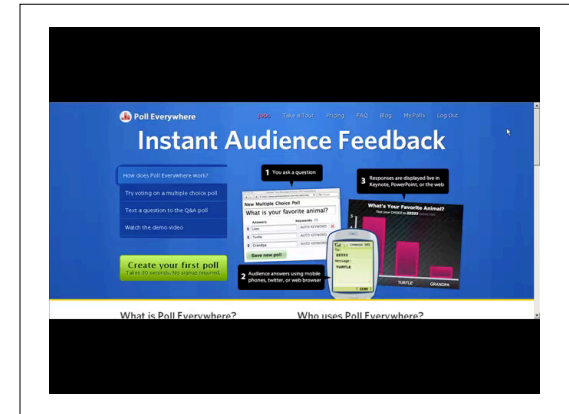
Use built in communication features

email

Social media integration



Classroom Polling



FOUR

Change Your
Lecture:Active Ratio

Our belief that we
have to “teach”
is fundamentally flawed.

How much do we learn from a 19-
year-old male student pretending
to be an 80-year-old woman?



Assisted Living Facility

25 EMT students

5 residents

Learning in all domains

Obtaining a history
may be a challenge



Vital sign challenges

Arm size

Limited mobility

Heavy clothing

Extremes in findings



You don't have to
do it all at once.

The Differences

Expectations

Seating

Activities

Outcomes

Everything!



FIVE

Let the Students Teach

What do you do
before a lecture?

Check your notes?

Review the material?

Make sure you know it cold?

Isn't that what we want from our students?

Watch What Students Do

If given an assignment to teach a group of
students do they:

Create PowerPoints?

Write on the dry erase board?

Create a video?

It is our job to change the tradition!

You are still needed

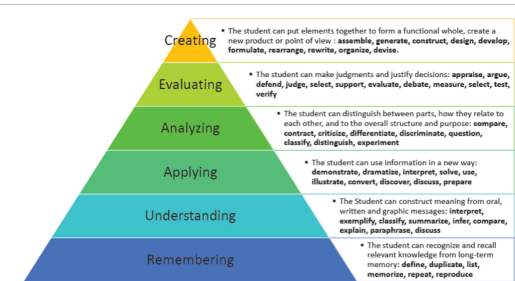
Advise students as they develop their
presentation

Assure the correct message/info is sent

Facilitate as needed

You Want Your Students To Be Able To Think.

Here's your chance.



Examples

Exercises

List the five most essential qualities of an EMT you would want to come to your house and care for you or a loved one.

List three things an EMT can do without a doctor's permission and three things that need a doctor's permission. You may use your book and other resources available to you.

Exercises

You are called to the scene of a "man down." You arrive to find a man on the ground outside a local supermarket. The man appears to be responsive but a little confused. He can answer directions and answer basic questions. He is in his 40s-50s. He shows no signs of injury or trauma (e.g. getting assaulted or hit by a car).

List at least 5 medical conditions that may be causing the patient's altered mental status.

For each of the conditions above, list two or three things that might help you confirm that diagnosis on scene.

Thank you!

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The screenshot shows the EMT Review website. At the top, there is a logo for "EMT Review" with the tagline "powered by LimmerCreative". Below the logo is a navigation bar with links: HOME, FOR STUDENTS, FOR INSTRUCTORS, JOIN NOW, CONTACT US, and LOGIN. A search bar is also present. The main content area is titled "FOR INSTRUCTORS" and contains a paragraph about the benefits of EMT Review, followed by a "Member Login" section with fields for Username (danlimmer) and Password (*****), a "Remember Me" checkbox, and a "Log In" button. Below the login section is a "Not a Member Yet?" link and a "Join Now" button.