

**CLINICAL CLUES**

**YOU DO THE ASSESSMENT**

**Clinical Clues**  
by Paul Werfel, BA, NREMT-P  
A collection of EMS case studies  
JEMS

Based on this book – **“Clinical Clues – a collection of EMS case studies”** - Which is now out of print and therefore very expensive (lowest price \$135).

We will be taking a look at ten patient assessment scenarios.

You will be given pertinent information and then it’s all up to you! Put your patient assessment skills and knowledge to the test!

## DISTANCE LEARNING PROGRAM

- Hello Mariposa County Medical Responder:
- This program was developed to enable us to maintain our EMS knowledge and skills through these difficult and unusual times when conventional classroom settings are not feasible
- In order to qualify for Continuing Education Units you need to review the presentation, as well as the notes for each slide
- Afterwards you need to download and take the exam to verify your knowledge
- Good Luck, Stay Safe, and if you have any questions email me at:  
[kwilson@mariposacounty.org](mailto:kwilson@mariposacounty.org)

Thank you for trying the new MCFD Distance Learning Program. In this format we can keep up with our EMS knowledge and gain CEU hours. Each month we will be uploading new content to the website for you. Please check back frequently.

# We Have to Make a Decision!

Critical?

Stable?



This is what we do on scene. Is the patient OK for now or do we have to do something FAST?

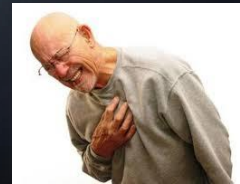
Is what we are doing for them the correct thing? Is the intervention or treatment working? What ELSE can we do for them?

Unlike “urban” EMS we in Mariposa County have a long wait for the ALS crew on the Ambulance. Our decisions can affect the outcome of our patients – both for the better and for the worse.

We have to be able to look at our “clues” on the scene and determine if this patient is stable or critical. Can we radio to the medic and tell them a “code two” response is OK? Or do we request an Air Ambulance to the closest LZ? First-On-Scene means we have a lot on our shoulders....

## RAPID PATIENT ASSESSMENT

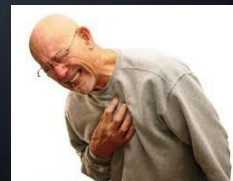
- We do patient assessment in EMS
  - We do not “diagnose”
  - BUT we need to determine if the patient is stable or critical
- We need to determine emergency treatment on-scene to stabilize the critical patients
- *HOW do we do this???*



We need to keep asking ourselves one thing: WHAT WILL KILL MY PATIENT FIRST?  
And once we find something we fix it.... This is the “E” in EMS – emergency!

## RAPID PATIENT ASSESSMENT

- **Many EMS providers develop a flow to their calls over time:**
  - **Providers will perform an assessment the same way, ask questions about a patient's medical history in the same order and write most of their patient care reports in a similar fashion**
  - **This approach to the practice of medicine helps ensure that steps are not missed**
  - **By performing a task in the same order or the same way each time, providers can free themselves up to focus on what is different or unique about a call.**



What is the “order” we use in EMS for patient assessment? What are the essential steps that must not be missed? How do we determine the immediate life-threats to our patient?

## RAPID PATIENT ASSESSMENT

- ***START with ABCDE:***

- **Airway**
- **Breathing**
- **Circulation**
- **Disability**
- **Environment.**



This is how we do it – the same way each time, and in this order.  
And if you forget where you are – go back to the beginning and start with A again.  
If you find something wrong in any of these – fix it before you move on.

# ASSESSING FOR THE CRITICAL PATIENT

How do we determine **STABLE** or  
**UNSTABLE**?



So this is the point of this class – just **HOW** do we determine the stability of our patients?

# STABLE

The *STABLE* patient is one who you believe is physiologically stable based on key clinical signs.



Minor illness, minor isolated injury, uncomplicated extremity injuries, and/or any patient that cannot be categorized as Critical, Unstable, or *Potentially unstable*.

Especially important is your General Impression: what are you thinking when you first come in contact with your patient? Do you get a “hinky” feeling that something is Just Not Right?



# Stable Patient

- \*Respiratory status is within normal limits
- \*Circulatory system status normal
- \*Neurologically stable – AXO times 3 or 4
- \*Appropriate skin signs/color
- \*Position of comfort.



Respiratory status – rate and depth within normal limits of 12-20 bpm with adequate tidal volume, equal rise on both sides of chest, no sounds or noises, little work of breathing.

Hemodynamics means the circulatory system – stable means no uncontrolled bleeding, no significant blood loss, no signs of shock, the pulse oximeter is showing greater than 95%, no signs/symptoms of AMI or stroke

Alert and oriented times 3 or 4 – oriented to person, place, time (and most of the time – event) with appropriate response to the provider for the age group

Skin should be warm, pink and dry

The patient can be placed in the position of comfort – as shown in the photo.

And you can breathe easy – this seems to be a stable patient (for now...)

# UNSTABLE/ CRITICAL PATIENT

The **UNSTABLE** patient is one who you believe is **physiologically critical**, or **potentially critical** based on key clinical indicators.



Poor general impression – you get a funny feeling this isn't good...

Unresponsive with no gag or cough reflexes

Responsive but unable to follow commands

Difficulty breathing

Pale skin or other signs of poor perfusion (shock)

Complicated childbirth

Uncontrolled bleeding

Severe pain in any area of the body

Severe chest pain, especially with a systolic BP of less than 100 mmHg

Inability to move any part of the body

## CRITICAL PATIENT INDICATORS:

- \* **Respiratory compromise**
- \* **Hemodynamic compromise/uncontrolled bleeding**
- \* **Neurologically impaired/ALOC**
- \* **Obvious trauma/significant MOI**
- \* **Skins signs/color (skin vitals)**
- \* **Body position**
- \* **Index of suspicion - your gut feeling.**



Respiratory compromise – rate and/or depth outside normal limits (faster than 24, slower than 10 BPM), open thorax wound or suspected pneumothorax, or the patient is really working to breathe

Circulatory system compromised – possible AMI, signs of stroke, uncontrolled bleeding, any signs of shock

Any altered level of consciousness

Any significant trauma or multi-system trauma

Abnormal skin signs (NOT warm, pink and dry)

Body position demonstrating severe pain (pay attention to the body language of your patient)

Your OS meter – that gut feeling that this patient is not well...

## CLINICAL CLUES – YOU DECIDE!



I will present ten case studies  
and you decide if your  
patient is critical or stable,  
what will be your treatment  
and how you would  
transport...

Ready to test your skills?

Remember to read the scenario carefully and never dismiss any strange vital sign or part of the patient history – it is ALL significant!

## CASE NUMBER ONE

- An elderly lady (82 years old) bends over to pick up her five-year-old granddaughter, and the child accidentally kicks her in the abdomen
- Her chief complaint to you is the worst stomach pain she has ever felt
- All vital signs are within “normal limits”;
  - No bruising of the abdomen – soft with no lumps palpated
  - Pulse 80, BP 150/90, respirations 18, pulse ox 95%
- STABLE OR UNSTABLE?



Is this patient stable with just simple muscle pain or could it be something else?  
Where is your personal OS Meter here? Not much to go on yet is it? – stable or unstable?

What is your treatment? How would you transport?

## CASE NUMBER ONE

- In this case, the patient is transported and examined by the ER Doctor – who schedules her for a CT scan the next day
- She is given a bed in the hospital
- During the night she suffers a cardiopulmonary arrest and is pronounced dead 40 minutes later...
- *What was missed here?*



She looked pretty good on scene, right? But you **MUST** assume the **WORST** ! What could possibly be a life-threat to an 82 year old woman? Was this trauma significant?

## CASE NUMBER ONE

- Your Index of Suspicion: "C" – Circulation/Possible Uncontrolled Internal Bleeding
- Elderly respond to trauma differently than younger patients:
- Diminished ability to raise the heart rate
- Reduced ability to vasoconstrict
- Abdominal injuries in the elderly are often unremarkable – diminished ability to feel pain.



Hope for the best....But you MUST assume the WORST !

Elderly have nearly five times the death rate for abdominal trauma than other age groups because of these reasons

Did the vitals or signs/symptoms show us anything on-scene? No – but we MUST take into account the **age of the patient** with the (relatively small) trauma here.

This patient was NOT critical at the time but had the potential of becoming critical! How about that blood pressure? Does the elevated systolic of 150/90 fit with the other signs? No? Did you notice that?

When ONE vital sign does not "fit" with the others then chase it down – don't go into denial!

## CASE NUMBER TWO

- You have been called to a 75 year old man who has been complaining of neck and upper abdominal pain (for 4-6 hours)
- No respiratory difficulty, AXO times 4, skin cool and dry
- BP 98/60, pulse 60, respirations 20
- He has a 15 year history of insulin-controlled diabetes, rheumatoid arthritis, no history of cardiac problems or hypertension
- Patient begins to feel light-headed and nauseated...
- STABLE OR UNSTABLE?



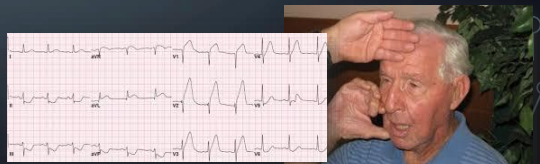
Chief complaint here is neck and upper abdominal pain. Only medication he is taking is one for his arthritis.

Stable or unstable? How do you feel about those vital signs? What is your treatment? How would you transport?



## CASE NUMBER TWO

- BLS Treatment here would be:
  - Check pulse ox – oxygen if needed
  - Position of comfort – keep him sitting up
- But the ALS ECG shows he is having a heart attack – clearly an unstable patient!
- Your Index of Suspicion: “C” – Circulation/Heart
- What were your clues?



What is your index of suspicion here? How Is your OS Meter? Stable or unstable? It turns out he is unstable: what did you miss?

Remember – we do not have the luxury of looking at an ECG. We in BLS have to look at other signs and symptoms, and rely on our own OS Meter to determine immediate life threats.

## CASE NUMBER TWO

- **Not a typical presentation for a heart attack – BUT...**
- **Elderly PLUS a history of Diabetes !**
- **Diabetics have been known to have MI's with little or no chest pain (the “silent” heart attack)**
- **Low blood pressure, slow pulse, high respirations – *something* is affecting the heart.**



Elderly and diabetics can present with an AMI without the usual chest-pain symptoms!

Say to yourself: COULD this patient be having a heart attack right here in front of me?????

What are those vitals telling you? The heart is beating slowly – only 60 per minute, and a rather low blood pressure for his age, yet this patient is breathing at the high-end of the “normal” range – what could be causing that?

The heart is damaged – it simply cannot keep up with demand. Yet the respiratory system is desperately trying to keep the oxygenation up.

## CASE NUMBER THREE

- Dispatched to a “motorcycle down”, with an unconscious 35 year old male patient who was thrown about 75 feet
  - His helmet was thrown 100 feet
- Lacerations to the patient’s face and back of head with profuse bleeding
- Vitals: BP 88/60, pulse 122 and respirations of 30
  - Respirations vary in depth
- **STABLE OR UNSTABLE?**
- **What is your treatment?.**



Quite obviously he is unstable – based simply on the MOI we have a TBI (traumatic brain injury showing varying respirations – Cheyne-Stokes)

But what else could be going on here????

Would you stop your assessment here – C spine stabilization, control the bleeding head/face and apply oxygen and simply transport ASAP by helicopter? Let’s assume you do this -

## CASE NUMBER THREE

- At the ED the vital signs bottom out and the staff initiates CPR
- The staff exposes the chest for defib and reveal a large area of bruising on the patient's left side;
  - Breath sounds are absent on this side of the chest
- The surgical team does needle decompression
  - Releasing a "gush" of air from his chest
- But the patient remains in cardiac arrest and is pronounced dead 30 minutes later.



But what else could be going on here???? What happened?

Tension pneumothorax – that was NOT found on assessment because you thought you had “enough” on this patient. What was telling you that something else was going on here? LOW blood pressure and HIGH respirations are signs of SHOCK – not necessarily TBI!

With this significant Mechanism of Injury we might not take the time to do our full ABCDE assessment – and miss something vital! We shouldn't jump to conclusions – especially in trauma

### Physical symptoms of TBI:

Loss of consciousness from several minutes to hours

Persistent headache or headache that worsens

Repeated vomiting or nausea

Convulsions or seizures

Dilation of one or both pupils of the eyes

Clear fluids draining from the nose or ears

Inability to awaken from sleep

Weakness or numbness in fingers and toes

Loss of coordination

## CASE NUMBER THREE

- WHAT WILL KILL MY PATIENT FIRST?
- Your Index of Suspicion: "B" - Breathing
- Granted he had TBI – head/face trauma and was found unresponsive
- But the blood pressure and respiration rate did not "fit" with TBI alone:
- He was showing classic signs of hypoperfusion (shock)
- In an unresponsive patient we must do a rapid head-to-toe assessment
- **"Strip-and-Flip" is essential !**



In 1903, Dr. Cushing described what is now widely known as the "Cushing Triad" as a clinical tool for recognizing the presence of elevated Intracranial Pressure. The triad consists of a widening pulse pressure (rising systolic, declining diastolic), irregular respirations, and bradycardia.

This patient had BP 88/60, pulse 122 and respirations of 30 - low systolic **narrow pulse pressure, regular respirations and tachycardia**. This points to shock, NOT elevated ICP in a head injury. What could cause shock in this patient? Internal bleeding, cardiac tamponade, tension pneumothorax, to name a few.

**This is really important – once you find a "problem" you don't stop your assessment! You go on with the exam – find the next problem.**

## CASE NUMBER FOUR

- You respond to a “diabetic problem with ALOC”
- You have an unconscious 47 year-old male taking rapid, deep breaths (43 bpm), with a pulse of 120, blood pressure 100/64
- The patient’s skin is hot and dry, but the house is air conditioned and the room is cool
- Family tells you he takes his insulin regularly and checks his blood sugar several times a day.



Anything raise your OS Meter here?

Rapid heart rate with a low blood pressure, rapid breathing, skin hot and dry: are these the signs of a diabetic emergency?

## CASE NUMBER FOUR

- They also tell you that he has taken a lot of aspirin during the past few days for a back strain
- They go on to say that the patient vomited and complained about abdominal pain and ringing in his ears shortly before he passed-out
- They check his blood sugar with a glucometer and it is 122
  
- What is Going On Here???
- **STABLE OR UNSTABLE?**



Is 122 mg/dl an abnormal reading on the glucometer? Normal is 80 – 120 mg/dl, so no, not really, it needs to be around 100. Is this patient unstable? Yes, but mainly (at this point) because of the ALOC.

What ELSE could this be?

What are your other clues here? Abdominal pain, rapid deep breaths, vomiting and ringing in his ears.....is this consistent with a diabetic emergency?



## CASE NUMBER FOUR

- Your Index of Suspicion: "D" - Disability
- Accidental aspirin overdose
- Medication doesn't get much more over-the-counter than plain aspirin, and remember you can overdose on ANYTHING
- Don't discount a simple OTC medication just because it's OTC
- And don't dismiss signs/symptoms just because they don't seem to make sense – we assess, we do not diagnose:
  - We don't need to know the specific signs of each kind of overdose –
  - We just need to be suspicious of what the patient is taking.



The earliest symptoms of acute aspirin poisoning may include [ringing in the ears \(tinnitus\)](#) and impaired hearing. More clinically significant signs and symptoms may include rapid breathing (hyperventilation), [vomiting](#), [dehydration](#), fever, [double vision](#), and feeling faint.

So, you are thinking “how would we know this is an overdose?”: we suspect something other than hypo/hyperglycemia because it does not seem to be a diabetic problem. Looking at the history, we have an index of suspicion with the fact that his skin is hot and dry – in an air conditioned house – and that he has been taking “a lot” of aspirin. The hot, dry skin might be indicative of an infection, and he shows some shocky signs. So we might think septic shock and go with that. Only a diagnostic test would show the level of aspirin in his blood, so we have to take the worst possible thing and go with it.

**Regardless – we should be wondering why his S&S do not line-up with a diabetic emergency, and our sense of urgency should be high.**

## CASE NUMBER FIVE

- You respond to a post-MVA
- You find a 24 year-old male who states that his accident (car into a tree) happened about three hours ago, and really wasn't worried about it (although he admits to having a "couple of beers" before he drove)
- Now, his shoulders, arms and neck are beginning to hurt
- No medical history, taking no medications, denies loss of consciousness or head injury
- Vitals are: BP 138/76, pulse 90, respirations 18 and lungs are clear; Nothing found on palpation of his spine.



So, we have a pretty significant MOI – but it has been over three hours since the incident. Only NOW is he beginning to hurt. Is this just muscle aches?

What would you do? What is the worst possible thing that this could be?

## CASE NUMBER FIVE

- The ambulance arrives and the medic has the patient walk over to get in the ambulance
  - As he walks over, he stumbles on a rock and when he lies down on the stretcher he says he feels nauseated and now has numbness in his arms and legs
  - Vitals again: BP 88/60 and he appears flushed and feels warm
  - He begins to vomit, and someone turns his head to the side to protect his airway
- 
- What is Going On Here???
  - STABLE OR UNSTABLE?



I would hope you all say UNSTABLE at this point.

We should have had a suspicion of possible spinal injury here -

He should have been placed in C spine precautions until you can do a focused spinal assessment. But he wasn't and now he is showing you signs of neurogenic shock.

## CASE NUMBER FIVE

- Your Index of Suspicion: "D" - Disability
- In this case, the MOI was dismissed in favor of the patient's own assessment of his injuries – he had an unstable cervical fracture with spinal cord involvement, and is now paralyzed from the neck down
- Is the patient reliable here? Is he trained to determine possible injuries?
- No.....
- **BUT YOU ARE !**

• "Denial Ain't just a River in Egypt"

- Mark Twain



If something doesn't add up it's probably because you aren't hitting the right keys on the calculator.

This guy had a significant MOI, but you allowed others on the scene to just walk him to the ambulance without taking proper spinal precautions.

**If you think something might be dangerous to your patient and yet let others continue to do it – who is being the patient advocate? Nobody!**

## CASE NUMBER SIX

- You respond to a priority three “ill person” because the Medic Unit is out of the area
- You arrive to find a 30 year-old female complaining of vomiting and diffuse abdominal pain for the last two days:
  - The pain seems to be in the lower left side and in her left shoulder
  - She has no medical history and takes only prescribed birth control pills
- Her vitals are: BP 120/70, pulse 100, respirations 14 normal.



What is your assessment here? Those vitals aren't THAT bad, are they? This seems to be a healthy individual with abdominal pain.

## CASE NUMBER SIX

- She does not want to go to a hospital, but is doubled-up in pain
- She vomits again and you recheck her vitals:
  - BP 110/66, pulse 120, her skin is pale and cool
- What is Going On Here???
- STABLE OR UNSTABLE?



In just a few minutes her vital signs are much, much worse!

What do you think is going on here? She does not want to be transported, but do you do your best to persuade her? WHY? Is it just the flu? Food poisoning? Ulcer? Could be any of those, and we do not diagnose in the field.

But wait -

She is showing signs of shock.... **What ELSE could be going on here?**

## CASE NUMBER SIX

- When the ambulance arrives you all persuade her to go to a hospital for evaluation:
- Your Index of Suspicion: "C" Circulation
- You are told later that she faints when moved from the gurney to the bed in the hospital
- She is later diagnosed with ectopic pregnancy, and shock from internal bleeding;
  - The signs of shock are subtle and easily missed
  - But we cannot afford to miss them!



Would you have caught this one? If not – this patient would have been dead in 12 hours or less if she did not go to the ED.

Shock can be caused by many medical and trauma problems. The signs and symptoms are subtle – but we cannot afford to be blind to them in the field

## CASE NUMBER SEVEN

- You are responding to an MVA - you arrive to find a 27 year old male walking around on the scene, no cars are in the area
- He tells you he was struck by a car that fled the scene, his words are slurred, and you notice a heavy odor of alcohol on his breath
- His vitals are stable but he keeps complaining of severe pain in his right leg each time he takes a step
- What would you do?
- Your Index of Suspicion: "D" Disability.



Blood pressure 128/90, pulse 98, 97% spO2 by pulse oximetry, respirations 14 and unlabored, skin warm, pink and dry

Is this guy just "drunk", or could he be injured? What kind of injuries? We do not have X rays or MRI machines to do diagnosis – remember we ASSESS!  
But if we just dismiss his complaints we risk our patient having some major injuries going unseen.....and untreated



## CASE NUMBER SEVEN

- He is somewhat combative and refuses to stop walking or sit down
    - Keeps saying he “only had two beers” and that he will “sue everybody”
  - You are concerned for any spinal injury and know that he is not reliable enough to pass the focused spinal assessment
  - The patient does not want to go to the hospital – until CHP shows up
  - He finally consents to go with the ambulance
- 
- What is Going On Here???
  - STABLE OR UNSTABLE?



What is your assessment here? What could his injuries be? Is he stable? His vitals are good, but what about the injuries we CANNOT see????  
Remember – WHAT WILL KILL MY PATIENT FIRST?

And we must be a patient advocate, in spite of the combative attitude!

## CASE NUMBER SEVEN

- As you help to put the C collar and KED on – he refuses to be placed on a backboard – he complains of dizziness and nausea and vomits
- He sits down on the gurney and vitals are rechecked: BP 90/P, pulse 140 weak and thready, skin pale cool and clammy...
- He is driven to a Modesto hospital, where you find out that he decompensated in the ED and he dies
- You later find out that the autopsy showed four pelvic fractures and numerous lacerations to internal organs.



...What is going on here? Is this a stable patient NOW????? No – he is showing signs of shock, in fact, decompensating shock. Would you recommend ground transport at this point?

We must remember to use ALL the clues we have to properly assess these patients – this man had ETOH on board, and alcohol does some funny things to a body. Mood altering drugs with addictive potential—alcohol, sedative-hypnotics, opiates, and cocaine -- act primarily on the brain, either depressing or stimulating it. The resulting impairment increases the likelihood of injury. Impairment produces poor judgment, decreased reaction time, lowered vigilance, and decreased visual acuity. Impairment can also cause a sense of omnipotence and a willingness to engage in risky behaviors.

Acute effects of alcohol and other depressants include lowered blood pressure, depressed consciousness, respiratory depression, and analgesia (insensitivity to pain). For example, an intoxicated patient with a cervical spine injury may report no tenderness in the neck, and an individual with an internal injury may not feel pain. The evaluation of blunt injury to the abdomen is of particular concern, because it is much harder to evaluate in an intoxicated patient. There is evidence that alcohol acts

like an anticoagulant: evidence in the literature suggests both platelet activation and platelet inhibition by ethanol.

## CASE NUMBER EIGHT

- You are dispatched to an unknown medical at a wedding reception
- You find a 23 year old female bridesmaid who complains of feeling nauseated, and has vomited several times in the last 30 minutes
- She has no relevant medical history except an ear infection, and the only medication is daily antibiotic (Keflex) prescribed for the infection
- As you obtain vitals she begins to cough
- Vitals are: BP 88/50, pulse 110, pulse ox reads 88%, respirations 20, and beginning to be labored with wheezing.



On the surface – not too bad. Perhaps a flu or food poisoning? But, those vitals.....

Blood pressure low, pulse high, oxygen saturation low, respirations high – what is happening here?

## CASE NUMBER EIGHT

- As you continue – she tells you her skin feels hot and itchy
- She states that she hasn't eaten today, and is not allergic to anything;
  - She denies being bitten by a bee, eating shell fish or peanuts, or taking penicillin
- Your Index of Suspicion: "B" Breathing

- What is Going On Here???
- STABLE OR UNSTABLE?



What is the assessment here? Stable or unstable? Where is your OS Meter at this point? COULD this be anaphylaxis?????  
What will kill this patient first? Anaphylaxis! Assume the WORST here – **this is a potentially unstable patient.**

## CASE NUMBER EIGHT

- The ambulance arrives and you give your hand-off report – you suspect an allergic reaction... to something
- The medic says that can't be right – until the patient says she can't breathe
- Epinephrine solves the problem, and she is transported safely;
  - Turns out she is allergic to the antibiotic Keflex
- Did you catch it?
- People CAN have anaphylaxis the first time they take a medication
- And she had a delayed response because she took it orally.



Not all allergic reactions start with the skin signs (hives) and the GI signs can be common. Just because she denies being allergic to anything does not mean she isn't - the first time someone takes or eats something may be the last!

If your gut tells you something is not right – listen to it!  
When the vitals don't match – listen to that and chase it down

## CASE NUMBER NINE

- Responding to an MVA you have two patients: the driver is out of the car, alert and talking, but the passenger, a 75 year old man, is unresponsive
- A bystander is leaning through the broken window and is holding the man's head;
  - He tells you he has removed the patient's false teeth to "help him breathe"
- You take over C spine, and the ambulance personnel place an OPA, non-rebreather mask, C collar and oxygen
  - Vitals are: BP 144/80, pulse 80, respirations 22 clear.



We're going to concentrate on the 75 year old male patient – are you lucky to have the help of a bystander here? ARE you?

How about those vitals – not too bad. But he is unresponsive which makes this patient critical.

## CASE NUMBER NINE

- Extrication takes 20 minutes
- Even though he is on oxygen – his pulse ox reading continues to drop:
  - It began at 90, but went to 88, then 82...
- Your Index of Suspicion: "A" Airway
- What is Going On Here???
- STABLE OR UNSTABLE?



What is happening? Something is blocking the blood from getting the oxygen you are flowing to the non-rebreather mask.

The pulse oximeter should not be going down when on oxygen! But his lung sounds are clear....

Is this patient critical? YES!



## CASE NUMBER NINE

- In the ambulance as the medic removes the OPA and starts to place an advanced airway, you watch as she grabs forceps and removes the bottom section of false teeth from the patient's airway;
  - They had been forced down by the placement of the OPA
- *Lessons here:*
- There are exceptions to every rule
- Always revisit ABC after extrication
- Always recheck the airway for obstruction before you place an OPA.



Airway, airway, airway. It really is the most important part of our assessment – and one that should be done often, not just once at the beginning.

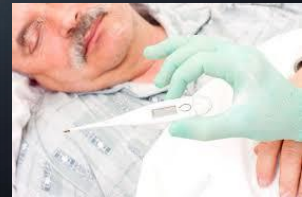
Exceptions to the rule of hearing some stridor or other sound when faced with an upper airway obstruction –

Revisit the ABCDE after getting your patient out of the car –

Recheck starting with the “A” – especially before you shove something else down there!

## CASE NUMBER TEN

- Dispatched to an ALOC; a 78 year old male patient in bed
- His wife tells you that yesterday he started having tremors, continuing drowsiness, and has had a fever of 102° for the last 24 hours
- His history is high blood pressure and he takes a beta blocker for that, and his doctor is prescribing pentamidine (in case he has a serious kind of pneumonia)
- His vitals are: BP 134/84, pulse 80, pulse ox reading 95%, respirations 18 with some lung sounds on one side
- Your Index of Suspicion: "D" Disability.



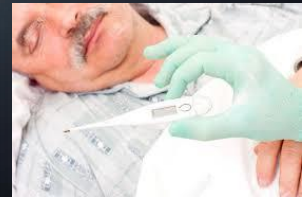
What do you think so far? You should be in Universal Precautions level of PPE – mask, gloves and eye protection

By now you should be aware that even though this patient SEEMS stable, he is probably not. Let's get some more information...

Does the ALOC come from the possible pneumonia? His vitals look really good...

## CASE NUMBER TEN

- You try to talk to the patient but don't get much – he is having some coughing
  - You notice how warm he is – his skin is very hot to the touch
  - You ask if he has been eating – no, not for a day or more...
  - You take another set of vitals – BP 126/78, pulse 90, pulse ox 95% on room air, and respirations 20, but he is less awake and seems intoxicated
- 
- What is Going On Here???
  - STABLE OR UNSTABLE?



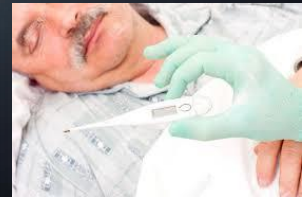
What could be going on here? The fever is significant – with the lung sounds you suspect pneumonia – but would THAT cause the ALOC????  
Why are the vitals decreasing in front of your eyes? Blood pressure going down when the pulse rate is going up?

WHAT CAN CAUSE ALOC?

Remember your SAMPLE history – all of it! What is the significance of the “L”?

## CASE NUMBER TEN

- He is transported to the ED, but you are not happy with this case and you follow up;
- You find out he suffered permanent, severe brain damage because his blood glucose reading in the ED was 11 mg/dl – *critically hypoglycemic*
- Even though he was not “diabetic”, his fever had increased his metabolic rate and caused profound hypoglycemia;
  - The beta blockers masked any increased heart rate
  - The antibiotic contributed to the non-diabetic hypoglycemia.



Very sad but a true story – the medics did not check his blood sugar because they were not told he was diabetic, so they did not suspect it. Non-diabetic hypoglycemia, a rare condition, is low blood glucose in people who do not have diabetes.

There are two kinds of non-diabetic hypoglycemia:

Reactive hypoglycemia, which happens within a few hours of eating a meal

Fasting hypoglycemia, which may be related to a disease:

Medicines, such as salicylates (such as aspirin), sulfa drugs (an antibiotic), pentamidine (to treat a serious kind of pneumonia), quinine (to treat malaria)

Alcohol, especially with binge drinking

Serious illnesses, such as those affecting the liver, heart, or kidneys

Low levels of certain hormones, such as cortisol, growth hormone, glucagon, or epinephrine

## CONCLUSION

- **Assessment is one of the most important aspects of pre-hospital medicine**
- **But...it is more than just gathering the information to pass on to the Paramedic**
- **It also includes scene assessment, the assessment your treatment is making (or not) for the patient, and your progress in resolving each problem as it comes up**
- **When you peel back the layers of information you get on a scene, it often comes down to fitting the somewhat unreliable information into a possible cause for the signs & symptoms we see in the field.**

Remember – if you are first on-scene you have a huge responsibility to gather as much information as you can:

From the patient,  
From the family or bystanders;  
From the incident scene itself.

## CONCLUSION

- We then have to use this disjointed and unreliable data to come to an extremely accurate assessment and treatment plan, often while being distracted by other uncontrollable events and people around us
- EMS practitioners are truly privileged to be allowed into people's lives to erase their pain, offer a helping hand and even save a life
  - Many of us do more public good in a month than most people do in a lifetime
- But to do this job – we need to be somewhat suspicious, critical and just plain old wary of what we are seeing on the scene.

If it don't fit – change your assessment...

Don't try to make the scene, the patient or the vital signs fit the “probable cause” that you first come to.

Keep an open mind and chase down those weird things that simply don't fit.

# THANK YOU!



Please download and complete the written exam for CEU credit. Send your completed exam back to me at: [kwilson@mariposacounty.org](mailto:kwilson@mariposacounty.org)

Thanks –  
BE SAFE!