Uh-Oh
The Stuff Has Hit The Fan:

First Steps in an Emergency

Basic Disaster First Aid

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Assessment Objectives

- List steps of Scene Assessment
- Describe importance of and parts of scene safety
- List steps of Primary Assessment
- Describe/demonstrate a good physical exam
- Take and record vitals (HR & RR)
- Describe what SAMPLE stands for
- Describe parts of a SOAP note and demonstrate writing up a scenario
- Write a patient assessment and list of anticipated problems

Scene Assessment

- Scene Safety
- MOI
- Numbers

Scene Safety: Who is most important person?

Whatcha' Think?

a. The patient

b. Fellow rescuers

c. You

d. They are all equally important

Scene Assessment

Scene Safety

- You are the most important person!
- Fellow rescuers, bystanders, etc. are next
- The patient ranks third
- Do not become another victim – You can't help and you become liability, doing harm to patient
- We don't need another hero – Patient needs someone who can stay out of trouble and help the patient
- Scene safety includes personal protective equipment (gloves, eye protection, etc.)

Scene Assessment
Scene Safety (cont.)

- The paramedic saunter – you'll never see them run; they slowly approach and size up scene
- They have and use situational awareness
- Many injuries from hurricanes happen after the storm

If the scene is not safe do not enter!

If the scene becomes unsafe, leave!

Scene Assessment
MOI

- MOI = Mechanism Of Injury (or illness)
- If it can be quickly ascertained it can help determine scene safety, primary treatment, and need/urgency of outside help
- Not always readily apparent in which case move on

Scene Assessment
Numbers

- How many patients are there?
- Sometimes it's obvious (it's family, you observe injury, etc.)
- However, if you are called to a collapsed house, how many people are inside?
- Ask initial patient and/or bystanders, look around

Initial Patient Communication

- Approach patient so they don't have to move head
- Initially stand back out of fist range
- Introduce yourself and level of training
- Ask if you can help

Legalities

- Even once trained and/or certified, you do not have to treat someone; it's your call
- Ask for permission to treat
- If coherent adult says "no," don't treat
- Implied Consent
  - Treatment allowed if patients cannot make their own rational decision
  - Includes a patient who is
    - minor
    - inebriated
    - unconscious or altered mental status

Legalities (cont.)

- You don't have to treat but once treatment has begun you must continue until
  - patient recovers or
  - patient handed off to someone of equal or higher training or
  - you become exhausted or scene becomes unsafe
  - otherwise it is abandonment
- Good Samaritan Laws – as individual rescuer you have no legal responsibility to patient; you are protected unless you go beyond level of training or grossly violate training (does not apply if you are acting in official capacity)
- Best bet: do what is right medically, don't worry about legal

Primary Assessment

- Airway
- Breathing
- Circulation – massive hemorrhaging
- Disability – mostly spinal worry
- Environment

Primary Assessment

- Addresses immediate threats to life
- If problem found, stop and fix problem before moving on to next step
- Should take less than a minute, unless a problem is found

Primary Assessment - Airway

- If patient speaking, airway is at least okay
- Check for breathing; if breathing normal, airway is okay
- If not breathing, reposition airway (head-tilt, chin lift or jaw thrust)

Primary Assessment - **B**reathing

- If patient speaking full sentences, breathing is okay
- If patient not speaking or not breathing, open and reposition airway
- If airway open but still not breathing consider giving rescue breaths (barrier)
- If breathing is labored, ask what you can do to help patient breathe more easily

Primary Assessment - **C**irculation

- Look for massive bleeding
- Quick sweep - look and feel under patient
- This is not a pulse check
- If cold weather clothes present, check inside clothes
- Don’t forget personal protective equipment (gloves)!

Primary Assessment
Disability

- Are there any obvious deformities or disabilities that would lead to life changing, permanent damage?
- This is primarily **spinal issues**, particularly on cervical vertebrae that could lead to disability
- If there is significant trauma (high energy MOI) suspect spinal damage and hold head/neck stable or improvise stabilization until further assessment
- Burns, eye injuries, etc. should also be considered

Primary Assessment – Environment

- Environment critical for patient (on ground, in water, blizzard, in sun, etc.) and rescuers
- Get patient off ground, out of water, out of sun, in shelter, etc.
- Don't forget self and rescuers in terms of environment – scene safety!
- **E** also stands for Expose: injuries must be exposed to identify full range of challenges
- Don't forget to cover back up after exposing

Summary - Primary Assessment

- Finds life threatening issues; when problem found, deal with it immediately
- Should take only a minute if nothing found
- Very helpful if responders check off steps verbally as they're gone through
- If patient speaking to you in full sentences, A&B are good
- When stressed, confused by symptoms, etc. go back to ABCDEs

Secondary Assessment

- Take a deep breath – you have found immediate life threats, you can now take your time
- This is where huge majority of disaster medicine work will take place
- Absolutely critical step – we will repeatedly practice
- Three parts
  - Physical Exam
  - SAMPLE History
  - Vitals

Secondary Assessment

- Take your time – generally no hurry
- Slow is smooth and smooth is fast!
- Use SOAP notes as cheat sheet and to record
- Be consistent and follow standard steps
- Do not be distracted by gross and/or obvious injuries
- Articulate steps and findings out loud to ensure nothing is missed and all care givers are informed

Secondary Assessment

- Best when learning Secondary to do 3 parts (physical, SAMPLE, vitals) separately
- With experience they can be done simultaneously
- Order doesn't matter but with trauma physical usually done first; with illness or patient with altered mental status SAMPLE might best be done first
- Eventually will take less than five minutes, but remember it's much better to do <u>well</u> than fast!

Secondary Assessment Supportive Care

- Remember that patients are often scared, in pain, and/or ignorant of what is going on or about care
- Patients deserve respect and the best care possible – both of these are enhanced by supportive care
- Supportive care sometimes the main care that can be provided in disaster medicine
- Supportive care comforts and reassures a patient
- Supportive care develops trust and rapport between patient and care giver
- Practice supportive care right from the beginning

What does supportive care look like?

- Regularly using the patient's name
- Crouching down to the patient's level and using the power of touch
- Giving the patient information and keeping her/him informed
- Keeping the patient warm, hydrated, fed
- Addressing, to the best of one's ability, patient pain
- When appropriate distracting, humoring, entertaining
- Never lying to patient
- Asking for the patient's input on decisions

Secondary Assessment
Physical Exam

- Be sure to get permission to examine or have implied consent
- Explain to patient why you are examining whole body (you can't miss other injuries due to a distracting injury) and not immediately treating what is obvious
- Don't be distracted by obvious injuries; cover 100% of body

Physical Exam - Palpating

- Palpate massage strength – not a light touch
- If someone is out of it mentally, use correspondingly more pressure
- Whatever level, use consistent pressure
- Watch patient's face, not where your hands are, particularly with altered mental status

Secondary Assessment
Physical Exam

- Start with the head, taking off any hat or sunglasses and checking ears, eyes, mouth
- Palpate the neck, shoulders, and chest
- Palpate the four quadrants of the abdomen (using navel as center) with four fingers of one hand
- Check the pelvis, legs and feet, and then arms
- Finish up with back and buttocks
- Cover 100% of body

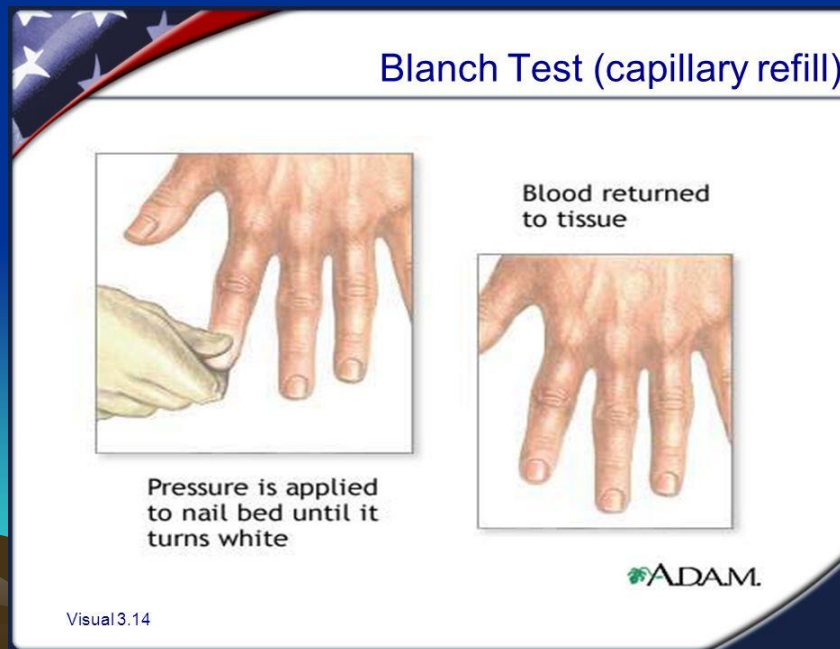
Physical Exam – When Injury Found

- When injury found: expose, note, and re-cover injury, but wait to treat until Secondary Assessment completed
- Ask patient to move injured part to determine ability to use/move and range of motion
- Check for nerve damage by checking sensation distal (far side from heart) to injury
- Check for circulation damage by checking capillary refill* and/or skin color or temperature
- If in doubt, compare injury to patient's "good" side or to yourself or other people

*see next slide

Checking Capillary Refill

- Often abbreviated as “cap refill”
- Press firmly on nail bed for ~2 seconds
- Release and color should return in <2 seconds
- Delayed return of normal color may indicate more serious injury or disrupted circulatory issues
- Cold hands/feet may exhibit delayed cap refill due to vasoconstriction – if cap refill is delayed helpful to compare injured limb to healthy one
- If nails are painted just use other side of finger/toe



Secondary Assessment History – SAMPLE

- If a patient has altered or fluctuating mental status it may be best to do SAMPLE first
- A good SAMPLE history is critical to assessing many illnesses and some trauma
- If a patient is unable to respond friends or family members may be able to help answer SAMPLE questions
- Write down answers, otherwise responses soon forgotten

Secondary Assessment

History – SAMPLE

- **S**ymptoms
- **A**llergies
- **M**edications (prescribed, OTC, naturopathic, recreational)
- **P**ast pertinent history
- **L**ast (ins and outs)
- **E**vents (what was happening just before accident or feeling ill)

Let's examine SAMPLE questions one by one

SAMPLE History

- **Symptoms**
  - Chief findings or complaint(s)
  - Start with most serious
- **Allergies**
  - What causes? - medications, food, latex, environmental triggers, other
  - What happens if allergy triggered? How bad?

SAMPLE History

- Medications
  - Be sure to ask about all medications (prescribed, over the counter, naturopathic, recreational)
  - If not familiar with the medication, ask why it is taken and/or what does it treat
  - Is the patient taking it as directed?
- Pertinent Past History
  - Has this ever happened before and if so how is this similar or different?
  - Do you have any major medical issues that could be impacting this and/or your care?
  - If illness, have you traveled outside the country recently?

SAMPLE History

- Last - ins and outs

  Last ins – water, food, meds

  Last outs

  pee, poop, menstrual

  color, regularity, smell, etc.

  sometimes more reliable than last ins

- Events

  - What ws going on right before injury or illness?

  - For example, you fell and hurt your ankle, was it because

    - You are a klutz

    - The stairs were steep or unsafe

    - You felt dizzy (indicating perhaps underlying and potentially more serious issue)

Vital Signs

ALWAYS Measure

- Heart Rate
- Breathing Rate
- Mental Status

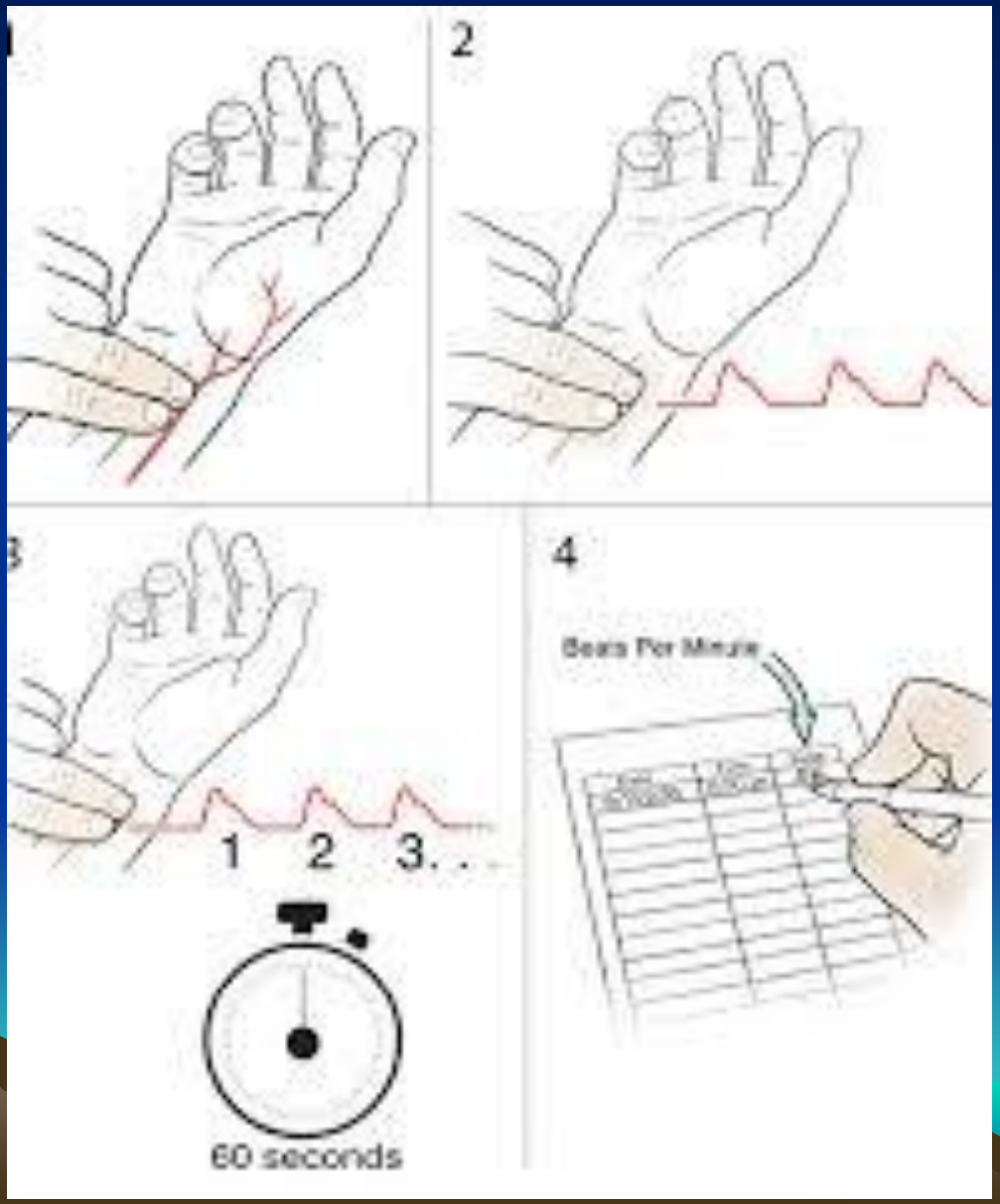
Vital Signs - Others

- Blood Pressure
- Temperature
- Skin

Vital Signs - Pulse

- HR (heart rate) generally taken at wrist (radial) or at neck (carotid)
- Use index and middle finger; don't use thumb
- Time for 15 seconds and multiply by 4
- Always report/record per minute
- Normal ranges 60-100; concern for HR 120+

Radial Pulse



Carotid Pulse

Vital Signs - Respirations

- RR (respiration rate) critical but often harder for beginners to get good measure
- Observe or place hand on abdomen (not chest)
- Look for bilateral chest movement
- Time for full 60 seconds
- Always report/record per minute
- Normal ranges 12-20; concern for RR >30

Exercise

- Take your own pulse and record (as always, per minute)
  - Radially (wrist)
  - Carotid (neck)
- Take your own respiratory rate and record (as always, per minute)
- Take someone else's pulse and breathing rates and record (as always, per minute)

Vital Signs – Mental Status

- Brain is very sensitive organ – with serious issues it will often show changes before other body parts/systems
- We measure/report using acronym of AVPU
- **AVPU** stands for

Alert – patient who is awake and easily responds
Verbal – patient who doesn't spontaneously interact; who only responds if you shout or get in their face
Pain – patient appears to be unconscious but responds to pain (sternum rub)
Unresponsive – patient is unconscious and does not respond even to pain

Vital Signs – Mental Status

- Alert is further subdivided into 4 “Alert & Oriented” (AO) levels
- A patient who is oriented to person, place, time, and event is considered AOx4
- To ascertain orientation to person, place, time, and event (or who, where, when, what) four questions are asked:
    1. Do you know your name
    2. Do you know where you are
    3. Do you know the month (President’s name)
    4. Do you know what happened
- A patient who can answer just 1 of these (usually their name) is AOx1; someone who can answer 3 is AOx3, etc.

Vital Signs

- Initial set of vital signs may be outside of expectations due to trauma, pain, fear, adrenalin, etc.
- Vital signs should be taken repeatedly – it is **change over time** that is most important
- Initially (within first 10-15 minutes) take 2-3 sets, particularly if initial set is outside what might be expected
- As patient and vitals stabilize vitals can be taken less often, approximately every quarter than half then full hour, then every 4 hours and daily, or when condition changes
- Documenting vital signs in SOAP notes critical – they otherwise won't be remembered

Vital Signs

What is most important is change over time

SOAP Note

Scene Assessment:

Primary Survey (MARCH/ABCDE):

M:	**A:**
A:	**B:**
R:	**C:**
C:	**D:**
H:	**E:**

Patients Name/Age/Gender:

Secondary Exam:

SAMPLE:

Symptoms:_____

Allergies:_____

Medications:_____

Past History:

_____

_____

Events:_____

_____

_____

_____

_____

Time	HR	RR	Skin	Temp	AVPU	Other

Physical Exam:

Assessment:

Anticipated Problems:

Plan:

Patient Assessment
A Shorthand Summary

- Patient
  - Age
  - Gender (if relevant)
- Incident and MOI if known and/or relevant previous med history
- Most significant findings - “chief complaint(s)” or problems (starting w/ worse)
- Treatment
- Should be short and sweet; a succinct summary of just key findings; 4-5 sentences

Patient Assessment - Example

- Patient (Age & Gender) – *We have a 20 year old female*
- Incident/MOI/relevant previous med history – *Who was found in collapsed building*
- Most significant findings/"chief complaint(s)" – *She is complaining of a moderate headache with no loss of consciousness. She has an unstable left wrist injury with inability to move it, normal CSM, and significant pain*
- Treatment – *We have splinted wrist and administered ibuprofen and are monitoring mental status*
- Should be short and sweet; a succinct summary of just key findings; 4-5 sentences

Anticipated Problems

- Important (and different than street medicine) because you may have patient for extended timeframe
- What can go wrong in next 4, 8, 24 hours

  Increasing intra-cranial pressure; Hypothermia; getting patient out of building; Clinic is 4 miles away with roads impassible for vehicles.
- List of differentials – *N/A*
- Evidence based (not just laundry list)

Plan

- Plan is only written after Subjective and Objective information is collected and Patient Assessment and Anticipated Problem list developed
- Do not jump to Plan before S, O, and A are done – they are key to informing plan
- In general, plan should be written in SOAP notes before call for help and always before any “runner” team is sent for outside help

Primary-Secondary Survey
Patient with minor injury/illness

- For purposes of this class we want to reinforce best practices so we are always going to do full primary-secondary assessment
- In real world use your judgment, but remember it never hurts to over assess
- Even by the pros in the ED things are missed, better to over than under assess!

Assessments Review

Scene Assessment - Scene safety, MOI, #s

Scene safety trumps everything

Primary Assessment – ABCDEs

Finds life threatening issues

Fix before moving on

Secondary Assessment – Take a deep breath

Take time and do it right

100% physical exam

SAMPLE History

Take multiple sets of vital signs (it's change over time that is most telling)