

Trauma Patient Assessment Spelled out Systematically the Fix-it Way

The “Fix It” Process

Experience has shown that most mistakes occur because the team leader stops to perform an intervention and forgets to perform part of the assessment. In order to prevent this, when immediate interventions are needed, delegate them to your team members while you continue the assessment. This is an important concept that immediately addresses problems encountered and yet does not interrupt the assessment sequence and does not increase scene time. It is what teamwork is all about. Think of it as the “Fix It” process. As you perform your assessment you will have interventions that need to be performed immediately by your partners. For example, when you check the airway the fix it may be a non-rebreather mask at 15 lpm or may be endotracheal intubation. When you check the neck the fix it may be to apply a cervical collar. As we go through the patient assessment sequence we will cover the “fix its” that can be done on-scene.

Who should be the team leader in patient assessment? If you are a two paramedic ambulance, either one can be the team leader time to time. One delegates to the other while they are the team leader. If you are a paramedic/EMT ambulance, in the best of all worlds, your EMT should be the patient assessment team leader. It should be the paramedic’s job to teach patient assessment to their EMT partner using the FIT-IT process. The EMT does the assessment, the paramedic does the interventions. This will stop interruptions in your patient assessment.

Trauma patient assessment consists of three different surveys

- 1. Primary Survey** includes scene size up, initial assessment, and the decision to complete a rapid trauma survey or focused exam.
 - 2. Secondary/Detailed Survey** is a detailed exam after you are in the ambulance or awaiting other transportation to recheck or find any other injuries.
 - 3. Ongoing Exam**, every three to five minutes during transport when our detailed has been completed that rechecks LOC, ABCs, Breath sounds, and all interventions that you have already completed. There will be times that ongoing exam may be needed as soon as you move the patient from the ground to the ambulance to make sure the patient hasn’t deteriorated.
- Only interruptions allowed during the assessment: Scene unsafe to perform an assessment, non-patent airway, and cardiac arrest.**

1. **The number one FIX-IT is to position the patient for assessment. You cannot always assume the patient will be lying in their back. For instance, if the patient is laying prone that position would make it very hard for the patient to breath and or make a proper assessment. A quick check of the back, check the pelvis, LOG ROLL properly onto a spine board, now begin your assessment.**
2. **Primary Survey**
 - A. Scene Size up: (Stabilize the neck by holding the head at this time)
 - Scene safety - Mechanism of Injury - Number of Patients - All Materials Necessary - Body Substance Isolation
 - B. **Initial Assessment** (This is the part of the Primary Survey that, at a glance, you get your impression and the ABCs of your assessment.)
 - **General Impression**, Good or Bad (With experience you will learn to take a glance at your patient and decide that this patient has bad injuries or this is not so bad) – Your general impression could indicate Load And Go
 - **LOC or Level of Consciousness**: (Is the Patient A and O X4 which means Alert and Oriented to these four things, Person, Time, Place, and Event. If the patient cannot answer any of these questions it becomes A and O X3 or X2 etc.
FIX-IT: If the patient is less than A and O X4 think Glucose level as soon as possible and treat it appropriately; check for medical alert tags.
 - **Airway**: Is it Patent (Which means is it clear)
FIT-IT: Clear by suctioning and or jaw thrust, tilt the head back.
 - **Breathing**: When we get away from normal breaths per minute (depending on age) the Rate and Quality of their breathing is critical. Too fast or too slow will make the difference in a good functioning brain. The normal tidal volume is 500 cc at 18 breaths per minute that changes to 200 cc at 30 breaths per minute and to 100 cc at 8 bpm and shallow. Breathing Rate and Quality is a very important sign and symptom to your patient's outcome.
FIX-IT: Most trauma patients, the fix-it for breathing is a non-rebreather at 15 lpm. The normal story is less than eight, intubate. Greater than thirty, control their breathing by talking them into slowing down or take over their airway by BVM. (BVM is very seldom tolerated)
 - **Circulation**: Circulation means check the pulse. Check it at the radial pulse, if it cannot be found, verify their pulse at the carotid pulse. Rate and Quality, again is a very critical assessments. A radial pulse rate at 100 and it's a very strong feeling to your fingers would be a normal trauma patient. Remember as the heart rate increases from 100 the hearts stroke volume starts to decrease at a rate 140, the efficiency of your heart drops by 50%. As the heart rate slows down under 60 again the efficiency of the heart decreases dramatically. The Rate and Quality of your patients pulse is a very important sign and symptom to your patient's outcome.
FIX-IT: Treat for shock. Elevate the foot of the backboard and have somebody jump in the ambulance while you're getting ready to set up two large bore IVs so you can do bilateral IVs as soon as the patient is in the ambulance and rolling.

- **Skin color and Condition:** Is it cool and clammy? Are there some other signs of shock by looking at their skin?
FIX-IT: Think, how am I going to keep them warm? Also think what is the underlining cause of their body temperature change?
- **Control Bleeding:** At a quick glance, is there any bleeding that your partner needs to control immediately before you move them to the ambulance.
FIX-IT: Direct pressure or pressure point, last resort tourniquet.

You just finished your initial assessment which should have been completed in no longer than 15 seconds. (Okay, step 1 of your primary survey has been completed. Time to make a decision, do we move on with a rapid trauma survey or a focused exam. How do you make that decision? If there is any chance of multi-trauma, more than one injury, you must move on to the rapid trauma survey. One injury, for instance, fingers cut off in a meat grinder or someone shot off their big toe you move on to the focused exam. A focused exam is where you tend to the one specific injury and transport them to the hospital.)

- C. **Rapid Trauma Survey:** Better defined as a rapid head to toe survey to find life threatening or load and go situations. Only treat the injuries that are critical to life that cannot wait until they are in the ambulance. In the last few seconds, you have just completed LOC, ABCs, etc so they should be good. Rapid trauma survey starts at the head and systematically goes to the toes. On the way you are remembering DCAP/BTLS: Deformities, Contusions, Abrasions, and Penetrations/ Burns, Tenderness, Lacerations, and Swelling.
- **Head Trauma:** Using your hands and your fingers, touch the head all over and look for any DCAP/BTLS.
FIX-IT: This patient should already be under some type of airway control because you just did it. Control Bleeding; note, we did not stop and check the eyes, that is done in the secondary survey.
 - **Neck Trauma:** Using your hands, you feel the neck for any DCAP/BTLS. Step off is not required separately due to it is the D in DCAP/BTLS. Check for Jugular Vein Distention (JVD), and Trachea deviation. If JVD or Trachea deviation has appeared you MUST think that when you get to the chest you will find a CRITICAL PROBLEM with the chest.
FIX-IT: A cervical collar is applied at this time.
 - **Chest Trauma:** Physical with your hands and fingers, squeeze and push on all areas of the chest looking for DCAP/BTLS and on the chest only we add Tenderness, Instability, and Crepitus (TIC). This will bring out, if they have, a flailed segment or singular broken ribs and any penetrations that could be entering the lung area. We check the breath sounds, upper fields (only right and left and heart tones)

FIX-IT: The chest may have a lot of FIX-Its. If there is a flailed segment, there maybe a few considerations. If you have a person who is free enough to always hold their hand over the flailed segment minimizing the movement of the flailed segment. Some medical directors may want you to tape a major trauma dressing over the area or use RSI capabilities to intubate them and breathe for them. (DO NOT TAPE ANYTHING HEAVY OVER THE FLAILED SEGMENT)
Sucking Chest wound, seal the wound, pneumothorax, decompress the effected side of the chest, hemothorax is a critical load and go treat for shock. (Do not decompress the chest) It may be a poor critical move to log roll a flailed chest patient, consider using the scoop stretcher as explained under pelvis fix-it.

- **Abdomen Trauma:** Check each of the four separate quadrants for DCAP/BTLS. **FIX-IT:** Control any external bleeding or eviscerations. Treat for shock if you have the availability of someone in the ambulance setting up two large bore IVs that can be administered on the route to the hospital.
- **Pelvic Trauma:** Check for DCAP/BTLS. Using both hands, push inward on the pelvis. Pushing down can sometimes be devastating if the pelvis is very unstable. **NOTE: NEVER LOG ROLL A PATIENT WITH AN UNSTABLE PELVIS. NEVER USE A TRACTION SPLINT ON A PATIENT WITH AN UNSTABLE PELVIS.**
- **FIX-IT:** If the pelvis is unstable or you think it is unstable, pay close attention to the note above. Use a commercial pelvic stabilization device or simply use a sheet to slide under the patient at their Lumbar spine, and with both ends slide it down under the pelvis and then bring it over the top of the pelvis pulling it tight then tie a knot to stabilize it. Using a scoop stretcher, scoop the patient to a long spine board. Remove the scoop and use twelve point SMRD to secure them tight to the board. Rapid transport, treat for shock.
- **Lower Extremity Trauma:** Using your hands check each lower extremity by physically touching the leg looking for DCAP/BTLS. Always check one lower extremity one at a time so you don't confuse the patient. When you get to the foot check Pulse, Motor, Sensory (PMS). **FIX-IT:** Control bleeding, splint fractures only if they are critical to life before transport, otherwise tie the legs together above and below the fracture, splint in route to the hospital. If it is a femur fracture, again if this is a multi-trauma victim, you can tie the legs together above and below the fracture and again below the knees. If the patient has an unstable pelvis, tying the legs together is your only option. Again, use the scoop process explained above for unstable femur fractures.
- **Upper Extremity Trauma:** Using your hands, check each upper extremity by physically touching the arm looking for DCAP/BTLS. Always check each upper extremity one at a time so you don't confuse the patient. When you get to the hand check Pulse, Motor, Sensory (PMS). **FIX-IT:** Control bleeding, splint fractures only if they are critical before transport otherwise secure them by sling and swath above and below the fracture.

- **Check the back:** Log roll the patient and check for DCAP/BTLS unless the patient falls under the category of the patient needs to be scooped, checking the back is very limited. Do the limited back check while using the scoop stretcher. **FIX-IT:** Control bleeding, remember stab wounds in the back are the same as sucking chest wounds, and treat it like you would any other sucking chest wound.

- **Move to Backboard:** While your patient assessment was being conducted you should already disrobe the patient, making it not possible to slide them up and down a spine board. Log rolling them the proper way the first time is very important. Once they are on the board, they will be stuck to the board. A consideration may be putting a sheet on the board. Secure them to the board with as many straps as the injuries require minimum of eight points. Arms go inside the straps and using a head motion restriction device is tied down last. Put the backboard on the cot; put the cot in the ambulance. Once you are in the ambulance you and your partner get vital signs and SAMPLE history if possible. The team leader now starts the Secondary Survey while their partners take care of the found airway problems, controlled bleeding, start IVs, and place them on monitors.
This whole process above must be completed in less than five minutes.

3. **Secondary/ Detailed Survey**

- A. LOC:** If the patient is less than A and O X4 think Glucose level, what was the Glucose level you received during the Primary Survey? What is it now?
FIX-IT: Get a second Glucose level and treat it appropriately. Check for head trauma.
- B. Head Trauma:** Recheck for DCAP/BTLS, are the eyes PEARL? Any Raccoon eyes? Any battle signs? Any bleeding from the ears or nose?
FIX-IT: If any of the above is found, treat it appropriately and notify medical control of the TRAUMA ALERT.
- C. Neck Trauma:** Recheck for DCAP/BTLS. Recheck JVD and Trachea for mid-line.
FIX-IT: If any of the above is found, treat it appropriately and notify medical control of the TRAUMA ALERT.
- D. Chest Trauma:** Recheck for DCAP/BTLS. This time check breath sounds in all four chest quadrants. Check heart tones.
FIX-IT: If the chest survey has changed to the worse treat it appropriately as stated above in chest trauma and notify medical control of the TRAUMA ALERT.
- E. Abdomen Trauma:** Recheck each of the four separate quadrants for DCAP/BTLS.
FIX-IT: Control any external bleeding or eviscerations.
- F. Pelvis Trauma:** The pelvis is one point where recheck should not be done if it was done properly the first time and if it is unstable you definitely don't want to recheck it.
- G. Lower Extremity Trauma:** Recheck for DCAP/BTLS. Recheck PMS. Was something new found?

FIX-IT: Now is the time that you choose to apply splints or traction splints if the patient has a stable pelvis. Or you may still decide to leave everything tied together with bandaging. Recheck PMS if you make any changes.

H. Upper Extremity Trauma: Recheck for DCAP/BTLS. Recheck PMS. Was something new found?

FIX-IT: Now is the time you should apply splints if necessary or you may choose to leave the sling and swaths.

The Secondary survey is now complete. This should have been done while you were rolling on to the hospital and completed in two minutes. The treatment should have been done by your partners until you were done with the secondary survey then you may help your partners in anyway needed. The ongoing exam is next and the first one should be done three to five minutes after you completed the secondary survey.

4. Ongoing Survey

A. LOC: Has it changed?

FIX-IT: Treat it appropriately.

B. Airway/ Breathing: What is the rate and quality?

FIX-IT: Treat it appropriately.

C. Circulation: What is the rate and quality?

FIX-IT: Treat it appropriately.

D. Neck: Any changes?

FIX-IT: Treat it appropriately.

E. Chest: Any changes?

FIX-IT: Treat it appropriately.

F. Check all interventions done by you and or the team.

G. O2, IV rate, bleeding control (is it working), splints (are they holding) ect.

Ongoing assessment is what shows above. You notice that it stops at the chest. You may go further than that if your interventions dictate to do so.

The normal ongoing survey is LOC through check the chest.

SUMMARY

As you can see, patient assessment is a very systematic survey process. If you deviate from this you are not doing the best for your patient. There are several other portions that may need to be covered and a few of those things are: Proper standing take down using a backboard for a standing patient. Patient assessment is always done on your knees beside your patient as you are talking to them and touching them.

Never straddle or step over a patient. Always walk around, try to walk around them by the way of their feet so they're not turning their head to look at you.

If you have more than one patient to be transported in one ambulance, the way you load them is critical to you and your patients. The first person to go into the ambulance is placed on the cot and then the cot is placed in the ambulance and the patient is moved to the bench and secured down. The cot is then removed, the second patient is now placed on the cot and placed in the ambulance and transported on the cot. This is done to prevent further injury to you (back injuries) and to the patient, dropping them and injuring them more.

Your patient care is only as good as your assessment.