

# INTERNATIONAL TRAUMA LIFE SUPPORT

NC ITLS Rev. 2/18

## STUDENT GUIDE TO INTERNATIONAL TRAUMA LIFE SUPPORT

### What to wear

ITLS is a practical course that stresses hands-on teaching. You should wear comfortable clothes that you do not mind getting dirty. Jeans and T-shirts or sweat shirts are perfect.

### How to prepare

**You absolutely must read and study the ITLS book before the course.** There is not enough time in the class period to learn all of the written material, the skills, and imprint the ITLS patient assessment method. The philosophy of a two day hands-on course is to be familiar with the material prior to the course, to review the concepts, then to spend most of the time practicing the practical applications of those concepts. The best method of preparation is to:

1. Read the book through once, including the skills stations.
2. Take the pretest.
3. Reread the book paying particular attention to those areas that gave you trouble on the pretest.
4. Memorize the “parrot phrases” in Chapter 3.
5. If possible, practice patient assessment using the team approach as outlined for you in skills stations: primary survey, rapid trauma survey, detailed exam and ongoing exam.

### Schedule

A class agenda is enclosed. ITLS is a very learning intensive course and time must be utilized efficiently. You must be familiar with your skills station schedule so that you will have time to practice each skill during the brief time available. You will be allowed to return to the skills stations at the end of the day for extra practice if needed.

# THE INTERNATIONAL TRAUMA LIFE SUPPORT PRIMARY SURVEY

The ITLS primary survey is a rapid examination used to identify and intervene in other **life-threatening** conditions and injuries and to make transport decisions. It is divided into 3 parts: The Scene Survey, The Initial Assessment, and The Rapid Trauma Survey OR Focused Exam.

The primary survey should take no more than 1.5-2 minutes and should be interrupted only for safety, airway obstruction and/or cardiac arrest. Perform the tasks in the order given.

## I. SCENE SIZE-UP

Personal Protective Equipment (PPE)

Is the scene safe? (Use senses)

Number of patients?

Mechanisms of injury? (Generalized or focused? Potentially life-threatening?)

Additional resources needed?

## II. INITIAL ASSESSMENT

Approach patient from the foot end.

General impression of patient (Age, Weight, Sex, General Appearance, Position, Purposeful Movement, Obvious Injuries, Skin Color, LIFE THREATENING BLEEDING)

Level of consciousness (LOC) A V P U Chief Complaint Symptoms

Cervical spine control

Airway: Open, patent, clear (Snoring, Gurgling, Stridor, Silence)

Breathing: Rate/Quality Depth Effort (< 8 BPM or > 30 BPM needs to be bagged)  
Otherwise NR at 15 lpm

Circulation: Carotid pulse (BP of 60 diastolic if present) (Check carotid and radial at the same time)  
Radial pulse (BP of 80 diastolic if present)  
Rate, Rhythm, Quality  
Skin color, Temperature, Moisture, Capillary Refill  
Control severe hemorrhage

DETERMINATION: LOAD AND GO?

RAPID TRAUMA SURVEY **OR** FOCUSED EXAM?



### III. RAPID TRAUMA SURVEY/FOCUSED EXAM

Head/Neck: Wounds  
Tracheal Deviation  
Neck Vein Distention

Chest: Asymmetry (Paradoxical Motion)  
Contusions, Penetrations, Tenderness, Instability, Crepitation  
Breath Sounds Present and Equal.  
Feel (crepitus, subcutaneous emphysema, fractures, flail segment)  
Percuss (PRN)  
Heart Sounds

Abdomen: Contusions, Penetration/Evisceration, Tenderness, Rigidity, Distension

Pelvis: Tenderness, Instability, Crepitation

Legs: Obvious Swelling, Deformity  
Pulses/Motor/Sensory

Arms: Obvious Swelling, Deformity  
Pulses/Motor/Sensory

Posterior Obvious Wounds, Tenderness, Deformity

Baseline Vitals unless radial pulses are absent Pulse, Respirations, Blood Pressure

*If altered mental status-brief neurological exam.*

Pupils: Size? Reactive? Equal?

Glascow Coma Scale and SAMPLE History

Determine Load and go based on Rapid Trauma Survey/Focused Exam

#### **LOAD AND GO SITUATIONS**

- |                     |    |   |
|---------------------|----|---|
| Initial Exam        | 1. | Decreased LOC or altered mental status                  |
| Initial Exam        | 2. | Abnormal respirations                                   |
| Initial Exam        | 3. | Abnormal circulation (shock or uncontrolled hemorrhage) |
| Rapid Trauma Survey | 4. | Abnormal Chest Exam                                     |
| Rapid Trauma Survey | 5. | Tender, distended abdomen                               |
| Rapid Trauma Survey | 6. | Pelvic instability                                      |

- Rapid Trauma Survey 7. Bilateral femur fractures
- Rapid Trauma Survey 8. Significant mechanism of injury or poor general impression

### **ONGOING EXAM**

Level of consciousness (LOC) Talk to patient - A V P U

Airway

Breathing: Rate/Quality (< 8 BPM or > 30 BPM needs to be bagged) Otherwise NR at 15 lpm

Circulation: Carotid pulse (BP of 60 diastolic if present) (Check carotid and radial simultaneously)

Radial pulse (BP of 80 diastolic if present)

Skin color, condition, temperature

Neck: DCAP-BLS-TIC

Tracheal Deviation

Neck veins

Chest DCAPP-BLS-TIC

Look (equal rise and fall)

Listen (auscultate)

Feel (crepitus, subcutaneous emphysema, fractures, flail segment)

Abdomen DCAP-BLS

Flaccid, rigid, pain, tender

Focused assessment of injuries-Rechecks all recognized injuries.

Check Interventions Recheck all interventions

ET tube placement

Oxygen rate correct?

Hyperventilating decreased LOC?

IV's running at correct rate?

Open chest wound sealed?

Decompression catheter patent?

Dressings blood soaked?

Splints in good position, P/M/S OK?

Pregnant patient tilted to the left?

Cardiac monitor and pulse oximeter?

## **THE INTERNATIONAL TRAUMA LIFE SUPPORT DETAILED EXAM**

When performing the detailed exam (the old secondary survey), you must visualize and palpate from head to toe. Everyone gets a detailed exam; stable patients while at the scene, critical patients during transport. If other team members are available, the blood pressure and accurate pulse and respiratory rates may be taken by one of them.

### **REPEAT VITAL SIGNS**

### **REPEAT NEURO EXAM (AVPU, Pulses, Motor, Sensory)**

### **CONSIDER APPROPRIATE MONITORS-Cardiac, Pulse Oximetry, Capnography, etc.**

### **HEAD**

1. Palpate

Entire scalp and face for DCAP-BLS-TIC

2. Look
  - For Battle's Sign
  - For blood or fluid in ears
  - For Raccoon's Eyes
  - For blood or fluid from nose
  - For pupillary size, equality, reaction to light, accommodation
  - For burns or face, nose hairs, mouth
  - For skin changes-color, condition, temperature
  
3. Reassess
  - Airway-Open and clear?
    - Check for sooty sputum if burn victim
  - Breathing-Rate, quality
  - Circulation-rate, quality, blood pressure

**NECK** (remove collar if applied)

DCAP-BLS-TIC  
Tracheal deviation?  
JVD?

**CHEST**

DCAPP-BLS-TIC  
Listen for breath sounds in all lung fields  
Percuss if indicated  
Check ET tube

**ABDOMEN**

DCAP-BLS  
Palpate for tenderness

**PELVIS**

Compress laterally and over symphysis pubis for tenderness and instability

**EXTREMITIES-upper and lower**

DCAP-BLS-TIC  
PMS  
ROM

# PARROT PHRASES

## Scene Size-up

Which BSI precautions do I need to take?  
Is the scene safe? Do I see, hear, smell, or sense anything dangerous?  
How many patients do I have?  
Are additional personnel, resources or equipment needed?  
What is the mechanism of injury here?  
    Is it generalized or focused?  
    Is it potentially life-threatening?

## Initial Assessment

What is my general impression of the patient as I approach?  
Direct manual cervical spinal stabilization.

### *LOC (AVPU)*

Introduce yourself and say: "We are here to help you. Can you tell me what happened?"

### *Airway*

Is the airway open and clear?

### *Breathing*

Is the patient breathing?  
What is the rate and quality of respirations?

### *Ventilation Instructions*

Order oxygen for any patient with abnormal respirations, altered mental status, shock, or major injuries.

Delegate assisted ventilation if the patient is hypoventilating (<8 per minute) or if there is inadequate movement of air.

Hyperventilate only those head injury patients who are unresponsive and show signs of cerebral herniation.

### *Circulation*

What is the rate and quality of the pulse at the wrist and neck?  
Is major external bleeding present?  
What is the skin color, condition, and temperature?

### *Decision*

Is this a critical situation?  
Are there critical interventions that I must make now?

## Rapid Trauma Survey

### *Head and Neck*

Are there obvious wounds of the head or neck?  
Are the neck veins distended?  
Does the trachea look and feel midline or deviated?

Is there any deformity or tenderness of the neck?

### *Chest*

Is the chest symmetrical? Is there paradoxical movement? Is there any obvious blunt or penetrating trauma?

Are there any open wounds or paradoxical movement?

Is there TIC (tenderness, instability, and crepitation) of the ribs?

Are the breath sounds present and equal?

If the breath sounds are not equal, is the chest hyperresonant or dull?

Are the heart sounds normal or decreased?

### *Abdomen*

Are there obvious wounds?

Is the abdomen soft, rigid, or distended?

Is there tenderness?

### *Pelvis*

Are there obvious wounds or deformity

Is there TIC?

### *Upper Legs*

Are there obvious wounds, swelling, or deformity?

Is there TIC?

### *Scan of Lower Legs and Arms*

Are there obvious wounds, swelling, or deformity?

Is there TIC?

Can the patient feel/move fingers and toes?

### *Exam of the Posterior* (done during transfer to the backboard)

Is there any DCAP-BTLS of the patient's posterior side?

### *Decision*

Is there a critical situation?

Are there interventions that I must make now?

### *History*

What is the SAMPLE history? (may have been obtained during exam)

### *Vital Signs*

Are the vital signs abnormal?

### *Disability* (Perform this exam now if there is altered mental status.

Otherwise, perform it during the Detailed Exam.)

Are the pupils equal and reactive?

What is the Glasgow Coma Score?

Are there signs of cerebral herniation (unconscious, dilated pupil(s), hypertension, bradycardia, posturing)?

Does the patient have a medical identification device?

## **Ongoing Exam**

### *Subjective Changes*

Are you feeling better or worse?

### *Mental Status*

What is the LOC?

What is pupillary size? Are they equal? Do they react to light?

If altered mental status, what is GCS now?

### *Reassess ABCs*

### Airway

Is the airway open and clear?

If there are burns to the face, are there signs of inhalation injury?

### Breathing and Circulation

What is the rate and quality of respirations?

What is the rate and quality of the pulse?

What is the blood pressure?

What is the skin color, condition, and temperature?

### Neck

Is the trachea midline or deviated?

Are the neck veins normal, flat, or distended?

Is there increased swelling of the neck?

### Chest

Are the breath sounds present and equal?

If the breath sounds are unequal, is the chest hyperresonant or dull?

### Abdomen (if mechanism suggests possible injury)

Is there any tenderness?

Is the abdomen soft, rigid, or distended?

### Assessment of Identified Injuries

Have there been any changes in the condition of any of the injuries that I have found?

### Check Interventions

Ask the appropriate question for your patient.

Is the oxygen rate correct?

Is the oxygen tubing connected?

Are any of the dressings blood soaked?

Are the splints in good position?

Is the impaled object still well stabilized?

Is the pregnant patient tilted to the left?

## **Detailed Exam**

### *SAMPLE History* (complete if not already done)

What is the patient's history?

### *Vital Signs*

What are the vital signs?

### *Neurological Exam*

What is the LOC?

What is the blood glucose (if altered mental status)?

Are the pupils equal? Do they respond to light?

Can the patient move his fingers and toes?

Can the patient feel me touch his fingers and toes?

What is the Glasgow Coma Score (if altered mental status)?

### *Head*

Is there DCAP-BTLS of the face or head?

Is Battle's sign or raccoon eyes present?

Is there blood or fluid draining from the ears or nose?

Is there pallor, cyanosis, or diaphoresis?

### *Airway*

Is the airway open and clear?

If there are burns of the face, are there signs of burns in the mouth or nose?

### *Breathing*

What is the rate and quality of respirations?

### *Neck*

Is there DCAP-BTLS of the neck?

Are the veins normal, flat, or distended?

Is the trachea midline or deviated?

### *Circulation*

What is the rate and quality of the pulse?

What is the skin color, condition, and temperature (capillary refill in children)?

Is all external bleeding controlled

### *Chest*

Is there DCAP-BTLS of the chest?

Are there any open wounds or paradoxical movement?

Are the breath sounds present and equal?

If breath sounds are not equal, is the chest hyperresonant or dull?

Are heart sounds normal or decreased?

### *Abdomen*

Is there DCAP-BTLS of the abdomen?

Is the abdomen soft, rigid, or distended?

*Pelvis* (already examined in the initial assessment – no further exam is needed)

### *Lower Extremities*

Is there DCAP-BTLS of the legs?

Is there normal PMS? (pulse, motor, and sensory)

Is the range of motion normal (optional)?

### *Upper Extremities*

Is there DCAP-BTLS of the arms?

Is there normal PMS?

Is range of motion normal (optional)?

## **PATIENT ASSESSMENT PEARLS**

1. Do not approach the victim until you have done a Scene Size-up.
2. Do not interrupt the ITLS Primary Survey except for:
  - a. Airway obstruction or near obstruction
  - b. Cardiac or respiratory arrest
  - c. Scene Danger
3. Give oxygen to anyone with difficulty breathing, decreased LOC, or shock. If in doubt, give oxygen.
4. Necessary interventions (intubation, decompression,, IV's, etc.) should be done after the initial assessment but, if possible, do them in the ambulance during transport.
5. If absolutely necessary, certain interventions may have to be done before transport. Remember that you are trading minutes of the Golden Hour for those procedures. Use good judgment.

6. Transfer the patient to the backboard as soon as the rapid trauma survey is completed.
7. When the primary survey is completed, decide if the patient is critical or stable.  
Critical Trauma Situations:
  - a. Decreased LOC
  - b. Difficulty with breathing
  - c. Shock
8. Critical patients get a detailed exam en route to the hospital.
9. Stable patients get a detailed exam at the scene.
10. Transport immediately if your rapid trauma survey reveals any of the following:
  - a. Tender, distended abdomen
  - b. Pelvic instability
  - c. Bilateral femur fractures
11. Critical patients should not have traction splints applied at the scene (it takes too long).
12. Call medical control early if you have a critical patient (other physicians may have to be called in to treat the patient).
13. Anytime the patient's condition worsens, repeat the primary survey.
14. Anytime you make an intervention, repeat the primary survey.
15. When you repeat the primary survey, repeat every step.
16. Hyperventilate (20-25/min.) for head injuries only if showing signs of herniation (dilatation of ipsilateral or both pupils, decreased LOC, contralateral hemiparesis, Cushing's Reflex). Look for decerebrate and decorticate posturing.
17. Assist ventilations with anyone who is hypoventilating (8 or less/min. or is hyperventilating DUE TO HYPOXIA not emotional induced hyperventilation ).
18. Indications to decompress a tension pneumothorax.
  - a. Loss of radial pulse (SHOCK)
  - b. Loss of consciousness or obviously decreasing LOC
  - c. Cyanosis
  - d. Decreased breath sounds
  - e. Tracheal shift
  - f. JVD

(E and F can be late signs. It's like a low blood pressure in shock. If it is to that point, it is a critical situation)
19. Unconscious patients cannot protect their airways.
20. Endotracheal tubes are the best method to protect the airway and ventilate the patient.

21. Transport pregnant victims with the backboard tilted slightly to the left. Do not let them roll onto the floor.
22. Remain calm and think. Your knowledge, training, and concern are the most important tools you carry.

Pay special attention to the phrases and questions you should ask as detailed in Chapter 3