# Lec. 2B | SECONDARY SURVEY

*Dr Shimaa Abbas Hassan*

## Systematic Approach for the patient

- **Initial Assessment** → aim detect **LIFE THREATENING CONDITIONS**
- **Primary Assessment** → aim **RESUSCITATION**
- **Secondary Assessment** involves **Differential Diagnosis**, searching for and treating underlying causes.

**High-Yield**

*From past exams*

1. I

## SECONDARY ASSESSMENT

1) **Vital Signs:** HR, BP, RR, Temperature
2) **Focused History** → SAMPLE
3) **Focused Physical Examination**
4) **Diagnostic Assessments**
5) **Ongoing Reassessment**

## FOCUSED HISTORY

**Signs and symptoms at onset of illness**

**Allergies**

**Medications**

**Past medical history**

**Last meal**

**Events**

### 1.Signs and Symptoms at onset of illness, such as

- Breathing difficulty (e.g., cough, rapid breathing, increased respiratory effort, breathlessness, abnormal breathing pattern, chest pain on deep inhalation), wheezing
- Tachypnea,
- Tachycardia
- Fever, headache
- Abdominal pain
- Decreased oral intake.
- Bleeding
- Duration of symptoms

## 2.Allergies

- Medications, foods, latex, etc.
- Associated reactions

## 3.Medications **(including the last dose taken)**

- Patient medications, including over-the counter, vitamins, inhalers.
- Last dose and time of recent medications
- Medications that can be found in the patient's home/ medications that can be found in the child's environment.

## 4.Past medical history **(especially relating to the current illness)**

- Health history (eg, previous illnesses, hospitalizations)
- Family health history (in cases of ACS or stroke)
- Significant underlying medical problems (e.g., asthma, chronic lung disease, congenital heart disease, arrhythmia, congenital airway abnormality, seizures, head injury, brain tumor, diabetes, hydrocephalus, neuromuscular disease)
- Past surgeries

## 5.Last meal consumed

- Time and nature of last intake of liquid or food
- Elapsed time between last meal and presentation of current illness can affect treatment and management of the condition (e.g., possible anesthesia, possible intubation)

## 6.Events

- Events leading to current illness or injury (e.g., onset sudden or gradual, type of injury)
- Hazards at scene
- Treatment during interval from onset of disease or injury until evaluation
- Estimated time of onset (if out-of-hospital onset)

**The answers to these questions can help you quickly identify likely or suspected diagnoses.**

## FOCUSED PHYSICAL EXAMINATION

Carefully assess the primary areaof concernof the illness or injury (i.e., respiratory assessment with respiratory distress) andperformabrief head-to-toeevaluation.

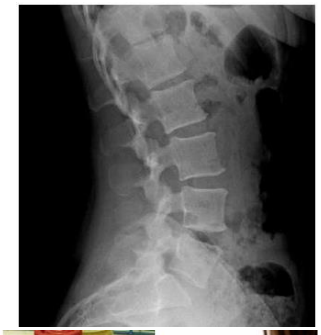
## Some examples of areas to assess for certain illnesses include:

- ✓ **The nose/mouth** (signs of obstruction, nasal congestion, stridor, mucosal edema).
- ✓ **chest/lungs, lungs** (crackles, difficulty breathing, intolerance of supine position), level of consciousness (somnolence secondary to hypercarbia, anxiety secondary to hypoxia) for respiratory distress.
- ✓ **The heart** (gallop or murmur)
- ✓ **abdomen** (evidence of hepatomegaly consistent with right heart failure), and extremities (peripheral edema) for suspected heart failure or arrhythmias.
- ✓ **The abdomen and back** for trauma

## DIAGNOSTIC ASSESSMENTS

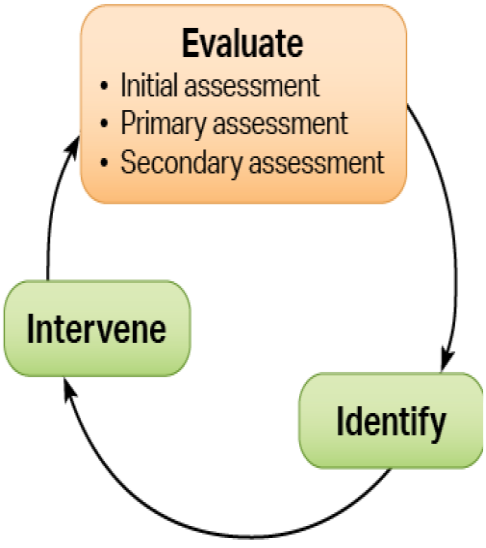
## The clinical situation dictates the timing of the following diagnostic assessments:

- Arterial blood gas (ABG)/ Venous blood gas (VBG)/Capillary blood gas
- Hemoglobin concentration
- Arterial lactate
- Central venous pressure monitoring
- Invasive arterial pressure monitoring
- Chest x-ray
- ECG
- Echocardiogram
- Point-of-care ultrasound sonography



## ONGOING REASSESSMENT

- ▶ Ongoing reassessment of all patients is essential to evaluate the response to treatment and to track the progression of identified physiologic and anatomic problems.
- ▶ Apply this reassessment in real time as needed based on the patient's clinical condition through all phases of assessment.
- ▶ Do not limit it to the last part of the assessment sequence.
- ▶ You may also identify new problems on reassessment.
- ▶ Data from the reassessment will guide ongoing treatment.
- ▶ The elements of ongoing reassessment involve continuous application of the initial, primary, and secondary assessments to determine the effectiveness of interventions.



**SIGNS OF CLINICAL DETERIORATION RECOGNITION:**
**PREVENTING ARREST:**

- Airway compromise
- Respiratory rate less than 6/min or more than 30/min
- Heart rate less than 40/min or greater than 140/min
- Systolic blood pressure less than 90 mmHg
- Symptomatic hypertension
- Unexpected decrease in conscious level
- Unexplained agitation
- Seizures
- Significant decrease in urine output
- Subjective concern about the patient


World Health Organization

# Medical Emergency Checklist

Version Feb 2019

## Immediately after primary & secondary surveys:

| | |
|---|---|
| **IS FURTHER AIRWAY INTERVENTION NEEDED?** May be needed if: • Abnormal level of consciousness (AVPU scale) • Stridor • Respiratory Distress • Hypoxaemia or hypercarbia | ☐ YES, DONE ☐ NO |
| **IS THERE A SEVERE ALLERGIC REACTION?** (ADRENALINE NEEDED) | ☐ YES ☐ NO |
| **IS THERE A *TENSION* PNEUMOTHORAX?** (NEEDLE/DRAIN NEEDED) | ☐ YES ☐ NO |
| **DOES THE PATIENT NEED OXYGEN?** | ☐ YES ☐ NO |
| **IS THE PULSE OXIMETER PLACED AND FUNCTIONING?** | ☐ YES ☐ NO |
| **DOES THE PATIENT NEED BRONCHODILATORS?** (e.g. salbutamol) | ☐ YES ☐ NO |
| **DOES THE PATIENT NEED IV FLUIDS?** | ☐ YES ☐ NO |
| **ASSESSED FOR ONGOING BLEEDING** (including gastrointestinal, vaginal, and other internal): | ☐ BY EXAM ☐ NGT ☐ ULTRASOUND ☐ CT ☐ DIAGNOSTIC PERITONEAL LAVAGE |
| **IS TREATMENT FOR HYPOGLYCAEMIA NEEDED?** | ☐ YES ☐ NO |
| **IS TREATMENT FOR OPIOID OVERDOSE NEEDED?** | ☐ YES ☐ NO |
| **IS THE PATIENT HYPOTHERMIC/HYPERTHERMIC?** | ☐ YES ☐ NO |

## When initial resuscitation is complete:

| | |
|---|---|
| **HAVE VITAL SIGNS BEEN RECHECKED?** | ☐ YES |
| **HAS THE PATIENT BEEN GIVEN:** | ☐ ASPIRIN ☐ ANALGESIC ☐ TRANSFUSION ☐ ANTIBIOTICS ☐ NONE INDICATED |
| **DOES THE PATIENT NEED AN ECG?** | ☐ YES ☐ NO |
| **PREGNANCY TEST DONE?** | ☐ YES ☐ NOT INDICATED |
| **HAVE ALL TESTS AND IMAGING BEEN REVIEWED?** | ☐ YES ☐ NO, PLAN IN PLACE |
| **WHICH SERIAL EXAMS ARE NEEDED?** | ☐ NEUROLOGICAL ☐ ABDOMINAL ☐ VASCULAR ☐ RESPIRATORY ☐ NONE |
| **PLAN OF CARE DISCUSSED WITH:** | ☐ PATIENT/FAMILY ☐ RECEIVING UNIT ☐ PRIMARY TEAM ☐ OTHER SPECIALISTS |
| **RELEVANT EMERGENCY UNIT CHART COMPLETED?** | ☐ YES |

*if intervention is needed but unavailable, respond YES and note missing item, date & time on stockout log sheet.

WWW.WHO.INT/EMERGENCY CARE

World Health Organization

# Trauma Care Checklist

## Immediately after primary & secondary surveys:

| | |
|---|---|
| **Is further airway intervention needed?**<br>May be needed if:<br>• GCS 8 or below<br>• Hypoxaemia or hypercarbia<br>• Face, neck, chest or any severe trauma | ☐ YES, DONE ☐ NO |
| **Is there a *tension* pneumo-haemothorax?** | ☐ YES, CHEST DRAIN PLACED ☐ NO |
| **Is the pulse oximeter placed and functioning?** | ☐ YES ☐ NOT AVAILABLE |
| **Large-bore IV placed and fluids started?** | ☐ YES ☐ NOT INDICATED ☐ NOT AVAILABLE |
| **Full survey for (and control of) external bleeding, including:** | ☐ SCALP ☐ PERINEUM ☐ BACK |
| **Assessed for pelvic fracture by:** | ☐ EXAM ☐ X-RAY ☐ CT |
| **Assessed for internal bleeding by:** | ☐ EXAM ☐ ULTRASOUND ☐ CT<br>☐ DIAGNOSTIC PERITONEAL LAVAGE |
| **Is spinal immobilization needed?** | ☐ YES, DONE ☐ NOT INDICATED |
| **Neurovascular status of all 4 limbs checked?** | ☐ YES |
| **Is the patient hypothermic?** | ☐ YES, WARMING ☐ NO |
| **Does the patient need (if no contraindication):** | ☐ URINARY CATHETER ☐ NASOGASTRIC TUBE<br>☐ CHEST DRAIN ☐ NONE INDICATED |

## Before team leaves patient:

| | |
|---|---|
| **Has the patient been given:** | ☐ TETANUS VACCINE ☐ ANALGESICS<br>☐ ANTIBIOTICS ☐ NONE INDICATED |
| **Have all tests and imaging been reviewed?** | ☐ YES ☐ NO, FOLLOW-UP PLAN IN PLACE |
| **Which serial examinations are needed?** | ☐ NEUROLOGICAL ☐ ABDOMINAL<br>☐ VASCULAR ☐ NONE |
| **Plan of care discussed with:** | ☐ PATIENT/FAMILY ☐ RECEIVING UNIT<br>☐ PRIMARY TEAM ☐ OTHER SPECIALISTS |
| **Relevant trauma chart or form completed?** | ☐ YES ☐ NOT AVAILABLE |

WWW.WHO.INT/EMERGENCYCARE

# QUIZ

**Q1: A 34-year-old male presenting to ED, Primary survey was performed and revealed Airway open and protected, intact breathing but with an evidence of chest trauma. Secondary survey of this patient should BE:**

a. Secondary survey includes examination and history taking.
b. All the above.
**c. A brief head to toe examination with detailed exam of the respiratory system.**
d. The patient should be stabilized before conducting secondary survey.

**Q2: Secondary survey does not include:**

a. Chest X-ray.
b. Head to Toe examination.
**c. Operative fixation of a fractured bone.**
d. Medication history.

**Cases 2:** You are a medical emergency team member called to urgently assess a 75-year-old woman admitted to the medical floor with pneumonia. Overnight, she was becoming progressively short of breath with increased work of breathing. This morning the nursing staff found her obtunded in extreme respiratory distress.

**Q1 is there a problem with her airway?**

- Maintainable
- May need suctioning

**Q2 What about her breathing Assessment?**

- She has severe respiratory distress with accessory muscle use and labored breathing
- She has paradoxical respirations
- Spo2 is 80%

**Q3 Do you think about any interventions?**

- Nonrebreathing mask on 15 L/min
- Re-evaluate her oxygen saturation
- Order ABG

**Q4 What about Circulation?**

- HR is 130 b/min, normal sinus rhythm
- BP is 142/87 mmHg

**Q5 Do you think about any interventions?**

No because circulation seems stable apart from sinus tachycardia which is explained by the severe respiratory distress

**Q6 What about Disability?**

She is unable to communicate with you because of her decreased level of consciousness

**Q7 Do you think about any interventions?**

Yes, I will check her blood glucose and check her ABG, she is maybe in co2 narcosis

**Q8 what about the E?** Her temperature is 37oc