

## Station 2 - Physical Exam

This station is a **Physical Examination**. You will be interacting directly with an Examiner. You will be asked to outline your focussed examination and management to the following clinical situation.

Further information will be provided as the case evolves. The examiner will be assessing your medical knowledge as well as your reasoning and rationale to your approach and Decisions.

Please explain to the examiner in detail how you would examine this patient, and answer any questions from the examiner.

### Candidate Instructions:

Case information:

You are in charge of a tertiary metropolitan ED during a weekday shift.

You are managing a 24 year old male who weighs 70kg.

He is 5 hours post ingestion of:

- 20 x 40mg Citalopram
- 5 x 50mg Tramadol
- 200mls of vodka

He has been brought to ED by his girlfriend.

His initial vital signs are:

Temp 38.2 degrees

HR 120

BP 170/90

RR 22

O2 sats 99% on room air

GCS 14 - confused

#### **Your tasks:**

- Explain to the examiner your focussed examination of this patient
- Outline your management of this patient as you receive further information about the case

#### **Domains examined:**

Medical Expertise

- Physical Examination (50%)
- Management (30%)

Prioritization and Decision Making 30%

## Examiner Instructions:

**Stage 1 (0-3:30mins):** 'Describe the clinical examination you would perform on this patient and detail what specific clinical findings you are looking for and why.'

-Airway - ensure patent, if compromised left lateral position, suction, airway manoeuvres, Guedel/NPA, intubation

-Breathing – auscultate lungs-assess for aspiration

-Circulation- asses for shock,

-Disability- febrile - ? sepsis ? serotonergic syndrome

-Focus on Serotonergic Syndrome Clinical examination findings:

| TABLE 2.8.1 Clinical features of serotonin syndrome                                                                                                                                                        |                                                                                                    |                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Mental status changes                                                                                                                                                                                      | Autonomic stimulation                                                                              | Neuromuscular excitation                                                                                                             |
| Apprehension<br>Anxiety<br>Agitation, psychomotor acceleration and delirium*<br>Confusion                                                                                                                  | Diarrhoea*<br>Flushing<br>Hypertension<br>Hyperthermia†<br>Mydriasis*<br>Sweating*<br>Tachycardia* | Clonus (esp. ocular and ankle)*<br>Hyperreflexia*<br>Increased tone (lower limbs > upper limbs)*<br>Myoclonus*<br>Rigidity<br>Tremor |
| *Clinical features significantly associated with diagnosis (Hunter Serotonin Toxicity Criteria).<br>†Hyperthermia >38°C is not significantly associated with the diagnosis but is present in severe cases. |                                                                                                    |                                                                                                                                      |

Require ≥ 5 features and ≥ 1 from each column.

-Screen for sepsis – chest(aspiration)/abdo/skin/CNS

-Screen for physical injuries/self-harm

**Stage 2(3:30-4mins):** 'Your clinical examination findings are:

*Vital signs: (hand to candidate)*

Temp 39.1 degrees

HR 140

BP 190/100

RR 24

O2 sats 100% on room air

GCS 13 – more confused

*He is sweaty, confused and agitated.*

*Chest is clear, CVS exam normal*

*Abdo SNT*

*No rash or neck stiffness*

*Neurological examination- limited by conscious stage - hyper-reflexia and clonus, otherwise normal'*

'What is your likely diagnosis?'

Serotonergic Syndrome

**Stage 3(4-7mins):** 'How would you manage this patient?'

**R** esuscitation – resus bay, full monitoring, assemble team

**A**irway/**B**reathing - O<sub>2</sub>, ensure patent given altered mental state, if compromised left lateral position, suction, airway manoeuvres, Guedel/NPA, intubation may be required for temp control

**C**irculation – iv access x 2, **Cooled IVF bolus** 500mls N/Saline aim HR < 100

**R** isk assessment - High risk severe Serotonergic syndrome

**S** upportive care and monitoring

- IV **Diazepam** 5-10mg over 3-5 mins to achieve gentle sedation, rpt as needed, accept other Benzo's
- Can tritrate IV vasodilator (GTN, sodium nitroprusside) for refractory tachycardia/HT
- High risk seizures due to citalopram > 600mg ingested - Benzodiazepines eg Midazolam eg IV Midazolam 5-10mg (0.15kg/kg), Diazepam 5-10mg iv, Clonazepam 1-2mg iv, Lorazepam 4mg iv
- **Active cooling** – remove clothes, water spray, fans, ice packs, cold IVF, lavage-bladder/gastric, intubation and paralysis
- Thiamine

**I** nvestigations—12-lead ECG + cardiac monitoring (>8hrs) for risk QT prolongation from Citalopram, paracetamol, blood glucose level (BGL)

**D** econtamination - too late for activated charcoal, also risk aspiration

**E** nhanced elimination – not applicable

**A** ntidotes – usually not required, efficacy not established in controlled trials (would usually consult toxicologist)

- Cyproheptadine 8mg oral/NGT, can rot 8 hourly for 24 hours
- Olanzapine 5-10 mg SL
- Chlorpromazine 25-100mg in 100ml N/Saline over 30-60mins

**D** isposition – ICU/HDU, Toxicology consult, general medicine, psychiatry

## Marking criteria

### **Medical Expertise: Examination:**

- Airway - ensure patent, if compromised left lateral position, suction, airway manoeuvres, Guedel/NPA, intubation
- Breathing – auscultate lungs-assess for aspiration
- Circulation- asses for shock,
- Disability- febrile - ? sepsis ? serotonergic syndrome
- Focus on Serotonergic Syndrome Clinical examination findings:

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| *Clinical features significantly associated with diagnosis (Hunter Serotonin Toxicity Criteria).       |                                                                                                    |                                                                                                                                      |
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**Require ≥5 features and one from each column.**

- Screen for **sepsis** – chest/abdo/skin/CNS
- Screen for physical injuries/self-harm
- Dx Serotonergic syndrome**

### **Management:**

**R** esuscitation – resus bay, full monitoring, assemble team

**Airway/Breathing** - O<sub>2</sub>, ensure patent given altered mental state, if compromised left lateral position, suction, airway manoeuvres, Guedel/NPA, intubation may be required for temp control

**Circulation** – iv access x 2, Cooled IVF bolus 500mls N/Saline aim HR < 100

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### **Prioritization and Decision Making**

**Focused clinical examination** seeking serotonergic syndrome

Identifies life-threatening **serotonergic syndrome**

Rapidly acts to **cool and administer benzodiazepines**

**Structured** approach to manage serotonergic syndrome