SAQ Example 1

A three year old child presents with their parents who are concerned that she has aspirated a toy. The child is not distressed.

Vitas signs are:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>100 Beats/min (regular)</td>
</tr>
<tr>
<td>BP</td>
<td>95/70 mmHg</td>
</tr>
<tr>
<td>SaO₂</td>
<td>98 % on air</td>
</tr>
<tr>
<td>Temperature</td>
<td>37.3 °C</td>
</tr>
</tbody>
</table>

i. What are three (3) indications for bronchoscopy in a child with a possible inhaled foreign body?

1. ______________________________________
2. ______________________________________
3. ______________________________________

Answer: historical choking/ coughing or persistent cough post choke, unilateral wheeze or atelectasis, or hyperinflation on expiration on X-Ray.

ii. In acute total upper airway obstruction in a child, list the four (4) initial treatment steps in sequential order.

1. ______________________________________
2. ______________________________________
3. ______________________________________
4. ______________________________________

Answer: BLS with back blows and chest thrusts, attempted ventilation with BVM, direct visualization possibly attempted removal, ETT to advance obstruction.
iii. What three (3) features in history are most relevant when assessing a child for possible foreign body aspiration?

1. 

2. 

3. 

Answer: age, opportunity, cough/choking, sudden onset, no prodrome.
SAQ Example 2

You are the duty consultant in a northern Australian emergency department during the summer months. You receive a thirty-five year old female surfer that has been being “dragged” from the water and brought in by car. She is extremely distressed by leg pain.

Vital signs are:

- **P** 140 Beats/min (regular)
- **BP** 150/90 mmHg
- **RR** 26 /min
- **SaO₂** 92 % on air
- **GCS** 15

A photo of her right leg is shown.
i. What is your initial interpretation of the wounds?

Answer: Extensive Chironex fleckeri (Box jelly fish) stings to the leg with potential for systemic envenomation.

ii. List three (3) possible causes of her hypoxia.

1. Possible near drowning, pulmonary edema post envenomation, chest injury sustained in the water > contusion/PTx, (medical cause such as asthma).

iii. What is the recommended initial treatment of the local leg injury?

Answer: Vinegar should be liberally applied if not already done so. Analgesia: IV narcotic, large doses often required. Remove tentacles with gloves if any remain attached.

iv. What would be the two (2) indications for anti-venom in this case?

Answer: If patient develops cardiovascular instability/cardiac arrest (usually occurs soon after sting). Ongoing severe local pain not controlled by IV narcotics.
SAQ Example 3

A member of the police force presents to your urban district hospital emergency department after being stabbed in the shoulder with a freshly used hypodermic needle whilst working. Assessment of the patient shows no acute wound repair is needed.

i. What is the approximate relative risk in this setting of the infection transmission of the following:

HIV

HCV

HBV

ii. List four (4) key issues that should be addressed in the assessment of this patient.

1. ______________________________________________________

2. ______________________________________________________

3. ______________________________________________________

4. ______________________________________________________

Answer: Patient anxiety, infection counselling, follow up with appropriate work services, confidentiality.

iii. List three (3) blood tests that are essential to aid in the assessment of this patient.

<table>
<thead>
<tr>
<th>Blood Test</th>
<th>Clinical Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
iv. What four (4) specific discharge counselling topics should be provided to this patient?

1. 

2. 

3. 

4. ____________________________

Answer: Follow up results, further serological testing, referral to appropriate services, explanation of infection risk in layman’s terms.

v. What are three (3) ethical and legal principles involved when giving discharge counselling?

1. 

2. 

3. 

Answer: Confidential labelling of specimens, notification of appropriate work authorities, work cover certificate.
SAQ Example 4

A 38 year old man walks up to the triage desk. He is agitated, shouting and uncooperative with simple instructions He is poorly kempt, clammy and tremulous.

i. List five (5) differential diagnostic categories you would consider when trying to assess this man? Give two (2) examples from each category.

<table>
<thead>
<tr>
<th>Category</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1. Major visceral injury with blood loss</td>
</tr>
<tr>
<td></td>
<td>2. Head injury (bleed, concussion)</td>
</tr>
<tr>
<td>2</td>
<td>1. Amphetamines, opiates, cannabis, usual antipsychotic medication e.g. Lithium</td>
</tr>
<tr>
<td></td>
<td>2. Alcohol, serotonin syndrome</td>
</tr>
<tr>
<td>3</td>
<td>1. Alcohol, cannabis</td>
</tr>
<tr>
<td></td>
<td>2. Opioids</td>
</tr>
<tr>
<td>4</td>
<td>1. Hypo/hyperglycemia</td>
</tr>
<tr>
<td></td>
<td>2. Hyponatremia, hypercalcemia</td>
</tr>
<tr>
<td>5</td>
<td>1. Schizophrenia</td>
</tr>
<tr>
<td></td>
<td>2. Acute mania</td>
</tr>
</tbody>
</table>

Answer:

- **Trauma**
  1. Major visceral injury with blood loss
  2. Head injury (bleed, concussion)

- **Toxidrome**
  1. Amphetamines, opiates, cannabis, usual antipsychotic medication e.g. Lithium
  2. Alcohol, serotonin syndrome

- **Acute withdrawal**
  1. Alcohol, cannabis
  2. Opioids

- **Electrolyte disorder**
  1. Hypo/hyperglycemia
  2. Hyponatremia, hypercalcemia

- **Environmental**
  1. Snake bite
  2. Red back spider bite

- **Psychiatric**
  1. Schizophrenia
  2. Acute mania

- **Endocrine**
  1. Hyperthyroidism
  2. Adrenal crisis

- **Sepsis**
  1. CNS
  2. Infective endocarditis

- **Post-ictal**
  1. Known epilepsy, related to causes above
  2. Withdrawal seizure
ii. Briefly describe two (2) different strategies for gaining the cooperation of this man.

1. ________________________________

2. ________________________________

Answer:
- Five person physical restraint
- Chemical restraint: benzodiazepine, butyrophenone, phenothiazine

iii. List the legal principles that guide your management.

____________________________________

____________________________________

Answer: Competence, informed consent.
SAQ Example 5
A 28 year old male presents to ED after being involved in a high speed MVC. He was the driver, restrained, deployed airbag, required extrication. On arrival he is short of breath and complaining of right sided chest pain.

Vital signs are:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SaO₂</td>
<td>95</td>
<td>%</td>
</tr>
<tr>
<td>P</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>BP</td>
<td>110/70</td>
<td></td>
</tr>
</tbody>
</table>

On 5L/min by Hudson mask  
Sinus tachycardia  
Afebrile

He has no significant past history and is on no medication.

A CT chest is performed as part of his workup. A single axial slice is given.
i. Give an interpretation of the image providing;

Five (5) positive findings

1. _______________________________________________________________________
2. _______________________________________________________________________
3. _______________________________________________________________________
4. _______________________________________________________________________
5. _______________________________________________________________________

Extensive right and left chest wall surgical emphysema; Epidural air; Pnemo-mediastinum; Right sided pneumothorax; Small emphysematous bleb posteriorly

Two (2) negative findings

1. _______________________________________________________________________
2. _______________________________________________________________________

No tension; No chest tube; No haemothorax

ii. List three (3) potential complications of these changes.

1. _______________________________________________________________________
2. _______________________________________________________________________
3. _______________________________________________________________________

Tension pneumothorax; Air embolism, stroke; Airway compromise from tracking to larynx/pharynx; Pneumopericardium progressing to cardiac tamponade

iii. List three (3) options for the treatment of the changes shown.

1. _______________________________________________________________________
2. _______________________________________________________________________
3. _______________________________________________________________________

Conservative: repeat CXR in 24 hours specifically looking for increase in pneumothorax size with view to ICC; Small lumen right sided catheter inserted using Seldinger technique for drainage of pneumothorax; Small bore ICC inserted using Seldinger technique; Small bore ICC inserted using incision/surgical technique; Large bore ICC specifically to treat pneumothorax and possible haemothorax; Catheters on Heimlich valve/UWSD +/- suction.
SAQ Example 6

A 60 year old man presents with a painful left hand. You note some increased heat, redness and swelling. An X-Ray is done and reproduced here.
i. Give four (4) abnormal findings on the image provided.

1. _____________________________________________________________
2. _____________________________________________________________
3. _____________________________________________________________
4. _____________________________________________________________

Air in soft tissues; DIP joint dislocation ring finger; Healed fracture shaft distal phalanx little finger; Fracture base middle phalanx ring finger; Fused PIP joints middle and index fingers; Sub-periosteal bone cysts ring ?middle fingers; ?Metallic foreign body PIP joint middle finger

ii. Give three (3) aetiologies for this appearance.

1. _____________________________________________________________
2. _____________________________________________________________
3. _____________________________________________________________

Trauma; Osteomyelitis; Necrotising fasciitis; Charcot joint/joints; Infected wound/foreign body

iii. Outline five (5) key features of his treatment and discharge planning.

1. _____________________________________________________________
2. _____________________________________________________________
3. _____________________________________________________________
4. _____________________________________________________________
5. _____________________________________________________________

Supportive: Analgesia/anti-pyretic; Elevation; +/- Splinting

Specific: IV antibiotic – broad spectrum i.e. Tazobactam; IV normal saline if likely necrotising fasciitis; Surgical referral – general/orthopaedic for possible OT treatment; Euglycemic treatment; (+/- HBO); Reduction of acute dislocation/fractures under ring block
SAQ Example 7

A 48 year old male self presents to the emergency department.

He is complaining of severe, heavy central chest pain with sweating, nausea and shortness of breath. The pain has been present for one hour.

You work in an emergency department that is 65 minutes from interventional services.

Initial vital signs are:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BP</td>
<td>95/55</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>125</td>
<td>Regular</td>
</tr>
<tr>
<td>SaO₂</td>
<td>92</td>
<td>%</td>
</tr>
</tbody>
</table>

On 6L via Hudson mask

His ECG on arrival is below.
i. Interpret the ECG giving three (3) positive findings.

1. __________________________________________________________
2. __________________________________________________________
3. __________________________________________________________

Critical LAD STEMI; Widespread anterior ST depression; Sinus tachycardia

ii. List five (5) drugs with doses needed within the first hour of arrival to emergency department.

1. __________________________________________________________
2. __________________________________________________________
3. __________________________________________________________
4. __________________________________________________________
5. __________________________________________________________

- Oxygen: titrated to keep SaO2 > 95%
- Aspirin: 300mg orally stat
- GTN: 1-2 sprays sublingual, patch, infusion (50mg in 100mg normal saline titrated to pain and BP)
- 11a11b inhibitor: clopidogrel 600mg orally stat, prasugrel 60mg orally stat, ticagrelor 180mg orally stat
- Heparin versus clexane: heparin 5000 iu stat IV, clexane 1mg/kg s/c stat
- Morphine/fentanyl: morphine 0.1mg/kg titrated to effect IV, fentanyl 1µg/kg IV or intranasal titrated to effect
- Anti-emetic: maxolon 10mg IV, ondansetron 4mg s/l
- Thrombolysis: tenectaplaste dose adjusted to weight
- Inotrope: adrenaline, metaraminol, dobutamine as required

iii. Outline four (4) factors that will determine definitive treatment of this patient.

1. __________________________________________________________
2. __________________________________________________________
3. __________________________________________________________
4. __________________________________________________________

- Time from pain onset
- Haemodynamic stability
- Continuous pain post thrombolysis
- Non PCI centre and delayed transport: thrombolysis within 30 mins of making decision
- Time to reaching cath lab – optimal less than 90 mins if large area at risk but acceptable up to 120 mins
- Successful thrombolysis to angiography less than 24 hours
SAQ Example 8

A 40 year old man is brought to the emergency department after taking an overdose of prescribed medication.

i. List seven (7) features on history that indicate a heightened risk for completed suicide.

1. ______________________________________________________________

2. ______________________________________________________________

3. ______________________________________________________________

4. ______________________________________________________________

5. ______________________________________________________________

6. ______________________________________________________________

7. ______________________________________________________________

• S – Sex: 1 if male; 0 if female; (more females attempt, more males succeed)
• A – Age: 1 if < 20 or > 44
• D – Depression: 1 if depression is present
• P – Previous attempt: 1 if present
• E – Ethanol abuse: 1 if present
• R – Rational thinking loss: 1 if present
• S – Social Supports Lacking: 1 if present
• O – Organized Plan: 1 if plan is made and lethal
• N – No Spouse: 1 if divorced, widowed, separated, or single
• S – Sickness: 1 if chronic, debilitating, and severe
ii. Provide a list of investigations which would be completed prior to referral to the psychiatric services including three (3) mandatory tests and four (4) optional tests determined by the details on assessment. Include detail on how the investigations will aid assessment.

<table>
<thead>
<tr>
<th>Test</th>
<th>How test will aid assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandatory test 1</td>
<td>Glucometer?oral hypoglycaemic ingestion</td>
</tr>
<tr>
<td>Mandatory test 2</td>
<td>ECG Features of sodium channel blockade, TCA ingestion, Beta blocker/CCB ingestion, K high or low</td>
</tr>
<tr>
<td>Mandatory test 3</td>
<td>Serum paracetamol ‘Silent’ toxicity</td>
</tr>
<tr>
<td>Optional test 1</td>
<td>LFT’s If unknown time of ingestion, ALT can guide risk of delayed presentation of paracetamol ingestion,</td>
</tr>
<tr>
<td>Optional test 2</td>
<td>Other serum drug level Anti-epileptics, digoxin, lithium</td>
</tr>
<tr>
<td>Optional test 3</td>
<td>CXR Features of aspiration pneumonitis</td>
</tr>
<tr>
<td>Optional test 4</td>
<td>Renal function Baseline for risk of poor clearance (cf Lithium), monitoring for drugs causing ARF</td>
</tr>
<tr>
<td></td>
<td>Breath/blood alcohol level Impact on conscious level, time before ‘medically cleared’</td>
</tr>
<tr>
<td></td>
<td>INR/coags Warfarin overdose, NOAC ingestion</td>
</tr>
<tr>
<td></td>
<td>ABG/VBG Monitor pH when treating sodium channel blockers</td>
</tr>
</tbody>
</table>

iii. List two (2) absolute and two (2) relative indications for admission.

Absolute indications

1.  

2.  

- Score of > 7 on sad persons scale or similar scoring system
- Requiring ongoing treatment for ingestion i.e. NAC, dialysis, ICU monitoring/care

Relative indications

1.  

2.  

- Poor social situation
- Potential for delayed onset toxicity
- Stabilisation of underlying medical condition
SAQ Example 9

A 34 year old G7P6 30/40 pregnant woman arrives in your emergency department in labour.

i. Complete the following table indicating the likely need for neonatal resuscitation if she delivers. Give four (4) features in each column.

<table>
<thead>
<tr>
<th>Maternal</th>
<th>Foetal</th>
<th>Intrapartum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 PROM</td>
<td>Multiple gestation</td>
<td>Foetal distress</td>
</tr>
<tr>
<td>2 Antepartum haemorrhage</td>
<td>Post-term</td>
<td>Abnormal presentation</td>
</tr>
<tr>
<td>3 Hypertension/eclampsia</td>
<td>Pre-term</td>
<td>Precipitate labour</td>
</tr>
<tr>
<td>4 Diabetes mellitus</td>
<td>Intra-uterine growth retardation</td>
<td>Prolonged labour</td>
</tr>
<tr>
<td>Substance abuse</td>
<td>Polyhydramnios</td>
<td>Thick staining of amniotic fluid</td>
</tr>
<tr>
<td>Maternal infection or chronic illness</td>
<td>Congenital abnormalities</td>
<td>Instrumental delivery</td>
</tr>
<tr>
<td>Absence of antenatal care</td>
<td></td>
<td>LSCS</td>
</tr>
</tbody>
</table>
ii. List the features that would be used to determine the Apgar score.

- Colour
- Tone
- Heart rate
- Respiratory effort
- Reflex irritability

iii. List five (5) specific treatments (with doses as appropriate) that may be required within the first ten minutes of delivery.

1. Cпap ventilation/intubation
2. Warming (drying, cling film wrap, beanie, radiant heater). Aim for normothermia
3. Vascular access (IO insertion, umbilical catheter with 5F catheter)
4. Adrenaline (0.1ml/kg 1:10000 via IO or umbilical catheter, 0.1ml/kg via ETT)
5. Naloxone (0.1mg/kg IV or IO)
6. Dextrose (5mg/kg 10% dextrose IV)