

How to Approach Common Problems

Objectives

- To develop a thorough system for diagnosing and managing common problems
- To develop a list of differential diagnosis for each presentation.
- Identify the most likely causes
- Identify the critical causes not to be missed

Introduction

Internship will be one of the most difficult transitions you'll have to do as a medical doctor. Clinical practice is very different to being a student in university or on the wards.

The major challenges that I believe most interns face are

- Lack of knowledge in very specialized units
- Many high priority tasks
- Limited time
- Many patients to look after

One way that you can tackle this is to become competent and efficient at those tasks that will be commonly asked of you. This includes

- Practical skills such as IV cannulation, urinary catheter insertion, and obtaining arterial blood gas
- And the ability to solve common problems.

By competently and safely solving the common problems, you will not only have more time to learn the knowledge and specialized skills of your particular unit but also give your patients better care.

The common problems that we solve daily in anaesthetics in very unwell patients with significantly altered physiology, have remarkable overlap with the problems you will be asked to solve for ward patients.

What are the common problems?

- Hypoxaemia
- Tachypnea
- Bradypnoea (slow resp rate)
- Hypertension
- Hypotension
- Tachycardia
- Bradycardia
- Oliguria
- Decreased conscious state

Complete the following exercise to diagnose and manage the common problems

Hypoxaemia

You get a call from the nurse stating your 60yo male patient has decreased oxygen saturations to 92% 1 day after his total knee replacement.

Before you attend, over the phone you

- Ask if a code blue or MET call needs to be called
- Request high flow oxygen via Hudson mask
- Request the patient sit up to improve lung mechanics and functional residual capacity
- Repeat a set of vitals

On the way to the patient you consider these broadly classified causes

- Decreased FiO2
- Hypoventilation
- V/Q mismatch – shunt vs dead space
- Diffusion abnormality

At the bedside you optimize the airway, breathing and circulation and consider what aspects of the history, examination and investigations will assist diagnosis?

	Relevant positives on Hx/Ex/Ix	Specific causes	Treatment
Low FiO2			Administer oxygen
Hypoventilation	Hx: Drugs, Acquired or preexisting, CNS pathology, myopathy, rib fractures Ex: Slow RR Ix: ↑PaCO ₂ , ↓pH	Opioids and benzodiazepines, CNS depression Pathology of neurotransmission Muscle paralysis or fatigue Chest wall pathology Pain	Naloxone Flumazenil Ventilate patient
Shunt	Hx: smoking. Ex: additional sounds on auscultation Ix: ↓PaO ₂ , A-a gradient CXR signs of APO, pneumonia, malignancy	Sputum plugging Atelectasis Aspiration Bronchospasm Pulmonary oedema Pneumonia Malignancy	Chest physio/encourage deep breathe and cough Salbutamol Lasix, nitrates. Antibiotics
Dead space	Risk factors for PE/DVT Ix: VQ scan or CTPA	Pulmonary embolism	Anticoagulation and supportive
Diffusion abnormality	Hx Ex Ix: CXR. Lung fn tests	Emphysema Interstitial fibrosis Infiltrative conditions	Optimise preexisting illness management

What are the most likely causes in this patient?

- Hypoventilation secondary to opioids
- Sputum plugging in a smoker
- Atelectasis post surgery

What critical diagnoses are not to be missed?

- Pulmonary embolism
- Drug error/overdose
- Pneumonia
- Pulmonary oedema

Tachypnoea

You get a call from the nurse because your 80yo male patient admitted to gen med for foot cellulitis has a resp rate of 36 (PHx: CCF and renal failure)

Before you attend, over the phone you

- Ask if a code blue or MET call needs to be called
- Request high flow oxygen via Hudson mask
- Request the patient sit up to improve lung mechanics and functional residual capacity
- Repeat a set of vitals

On the way to the patient you consider these broadly classified causes

- Pain
- Resp disease
- CVS
- Metabolic acidosis
- Respiratory alkalosis
- Drug/overdose

At the bedside you optimize the airway, breathing and circulation and consider what aspects of the history, examination and investigations will assist diagnosis?

Differentials	Relevant positives on Hx/Ex/Ix	Specific causes	Treatment

What are the most likely causes in this patient?

- _____
- _____
- _____

What critical diagnoses are not to be missed?

- _____
- _____
- _____

Slow resp rate (bradypnoea)

You get a call from the nurse stating a 40yo female patient has decreased resp rate of 8 post thymectomy for myasthenia gravis.

Before you attend, over the phone you

- Ask if a code blue or MET call needs to be called
- Request high flow oxygen via Hudson mask
- Request the patient sit up to improve lung mechanics and functional residual capacity
- Repeat a set of vitals

On the way to the patient you consider these broadly classified causes

- CNS
- Drug
- Neurotransmission
- Lung mechanics/chest wall
- Neuromuscular junction
- Muscle pathology

At the bedside you optimize the airway, breathing and circulation and consider what aspects of the history, examination and investigations will assist diagnosis?

Differentials	Relevant positives on Hx/Ex/Ix	Specific causes	Treatment

What are the most likely causes in this patient?

- _____
- _____
- _____

What critical diagnoses are not to be missed?

- _____
- _____
- _____

Hypotension

You get a call from the nurse stating your 50yo male patient has a BP of 90/40 day 1 post anterior resection

Before you attend, over the phone you

- Ask if a code blue or MET call needs to be called
- Request high flow oxygen via Hudson mask
- Request the patients legs elevated and with head slightly up
- Repeat a set of vitals
- If inadequate access - IV trolley at bedside and fluid line set up

On the way to the patient you consider these broadly classified causes

- Preload
- Rate and rhythm
- Contractility
- Afterload
- Obstructive

At the bedside you optimize the airway, breathing and circulation and consider what aspects of the history, examination and investigations will assist diagnosis?

Differentials	Relevant positives on Hx/Ex/Ix	Specific causes	Treatment

What are the most likely causes in this patient?

- _____
- _____
- _____

What critical diagnoses are not to be missed?

- _____
- _____
- _____

Hypertension

You get a call from the nurse stating your 70yo patient is hypertensive post a long mastoidectomy.

Before you attend, over the phone you

- Ask if a code blue or MET call needs to be called
- Request high flow oxygen via Hudson mask
- Repeat a set of vitals
- Repeat BP on both arms

On the way to the patient you consider these broadly classified causes

- Preexisting
- Pharmacological
- Pain (somatic, visceral)
- Physiological (CVS, resp, CNS, endo)

At the bedside you optimize the airway, breathing and circulation and consider what aspects of the history, examination and investigations will assist diagnosis?

Differentials	Relevant positives on Hx/Ex/Ix	Specific causes	Treatment

What are the most likely causes in this patient?

- _____
- _____
- _____

What critical diagnoses are not to be missed?

- _____
- _____
- _____

Tachycardia

You get a call from the nurse stating your 60yo male patient has decreased oxygen saturations to 92% 1 day after his total knee replacement.

Before you attend, over the phone you

- Ask if a code blue or MET call needs to be called
- Request high flow oxygen via Hudson mask
- Repeat a set of vitals
- ECG

On the way to the patient you consider these broadly classified causes

- Primary tachycardia (SVT, AF, Atrial Flutter, VT!)
- Secondary
 - Physiological (resp, CVS, CNS, metabolic/endo)
 - Pharmacological
 - Pain (somatic, visceral, anxiety)

At the bedside you optimize the airway, breathing and circulation and consider what aspects of the history, examination and investigations will assist diagnosis?

Differentials	Relevant positives on Hx/Ex/Ix	Specific causes	Treatment

What are the most likely causes in this patient?

- _____
- _____
- _____

What critical diagnoses are not to be missed?

- _____
- _____
- _____

Bradycardia

You get a call from the nurse stating your 70yo male patient is bradycardic at 36bpm after being admitted with a NSTEMI

Before you attend, over the phone you

- Ask if a code blue or MET call needs to be called
- Request high flow oxygen via Hudson mask
- Repeat a set of vitals
- ECG

On the way to the patient you consider these broadly classified causes

- Primary bradycardia (HB)
- Secondary
 - Vagal tone (baroreceptor, Cushings reflex)
 - Pharmacological

At the bedside you optimize the airway, breathing and circulation and consider what aspects of the history, examination and investigations will assist diagnosis?

Differentials	Relevant positives on Hx/Ex/Ix	Specific causes	Treatment

What are the most likely causes in this patient?

- _____
- _____
- _____

What critical diagnoses are not to be missed?

- _____
- _____
- _____

Oliguria

You get a call from the nurse stating your 60yo male patient is making 20ml/hr or urine day 1 post right hemicolectomy.

Before you attend, over the phone you

- Request bladder scan
- If inadequate access - IV trolley at bedside and fluid line set up

On the way to the patient you consider these broadly classified causes

- Prerenal
- Renal
- Post renal

At the bedside you optimize the airway, breathing and circulation and consider what aspects of the history, examination and investigations will assist diagnosis?

Differentials	Relevant positives on Hx/Ex/Ix	Specific causes	Treatment

What are the most likely causes in this patient?

- _____
- _____
- _____

What critical diagnoses are not to be missed?

- _____
- _____
- _____

Decreased conscious state

You get a call from the nurse stating your 50yo male patient is minimally rouseable post scleral buckle surgery for vitreo retinal haemorrhage

Before you attend, over the phone you

- Ask if a code blue or MET call needs to be called
- Request high flow oxygen via Hudson mask
- Repeat a set of vitals
- If inadequate access - IV trolley at bedside and fluid line set up

On the way to the patient you consider these broadly classified causes

- Physiological
- Pharmacological
- Neurological
- Other

At the bedside you optimize the airway, breathing and circulation and consider what aspects of the history, examination and investigations will assist diagnosis?

Differentials	Relevant positives on Hx/Ex/Ix	Specific causes	Treatment

What are the most likely causes in this patient?

- _____
- _____
- _____

What critical diagnoses are not to be missed?

- _____
- _____
- _____