Formal Observation of Procedural Skills 2 **(FOPS 2)** Assessment Document

Phase 2a Sheffield Medical School

By Melanie Coulson & Christopher Holt

This is not an official University document. It was made by a student as a simple review of the study material. Beware of any potential inaccuracies.

FOPS 2 Assessment;

1. Obtaining a 12-lead ECG and setting up a cardiac monitor

2. Administering an intramuscular injection

3. Administering a subcutaneous injection

4. Arterial blood sampling

5. Setting up an intravenous infusion and discussion on infusion devices

BEFORE ANY PROCEDURE- CHECK NAME, DOB, AND HOSPITAL NUMBER USING WRISTBAND AND PATIENT NOTES. THEN ALWAYS HAND GEL.

GET CONSENT AT THE START OF EVERY PROCEDURE;

W -wash hands

I -introduce yourself and identify patient

P -permission

E -expose patient appropriately

R -reposition patient as you need

Top tips;

- Watch the videos and look at the mark schemes on Minerva!
- Practice the 'spiel' with your friends and answering the pre-made questions
- Practice writing a list of what you need to gather for each procedure
- Go to SFH when there are practice sessions to brush up on your skills
- Be aware of timings as they are strict on this on the day
- Wear appropriate clinical dress and be bare below the elbows on the day

This is not an official University document. It was made by a student as a simple review of the study material. Beware of any potential inaccuracies.

1. Obtaining a 12-lead ECG and setting up a cardiac monitor

(They will already have their electrodes placed but these will be covered and you need to indicate where you would put them). You should then attach the appropriate wires and obtain 12 Lead ECG and monitor trace for patient.

For 12-lead ECG:

Limb leads (over bone where possible):

- right arm (red lead),
- left arm (yellow lead),
- left leg (green lead),
- right leg (black lead)

Chest leads:

- C1 = 4th intercostal space, right sternal border;
- C2 = 4th intercostal space, left sternal border;
- C3 = half-way between C2 and C4;
- C4 = 5th intercostal space, mid-clavicular line;
- C5 = anterior axillary line at the same horizontal level as C4;
- C6 = mid-axillary line at the same horizontal level as C4 and C5.

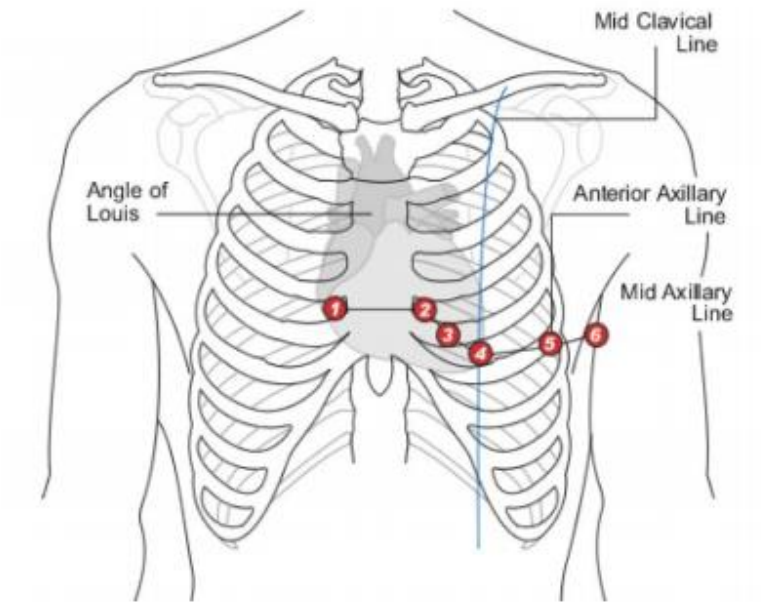

Figure 3: Application of chest electrodes.

This is not an official University document. It was made by a student as a simple review of the study material. Beware of any potential inaccuracies.

Figure 11b: Application of disposable electrodes on patient's skin.

Figure 8: Limb Leads (colour coded).

Figure 9: Chest leads labelled C1 to C6.

This is not an official University document. It was made by a student as a simple review of the study material. Beware of any potential inaccuracies.

ECG;

- Gather equipment
- Identify patient
- Explain the procedure- 'I've been asked to take some recordings of your heart, this will involve me placing some stickers on your chest, arms and legs. I'll then attach the stickers to some leads which are part of the machine. These will then take a recording of your heart. You shouldn't feel any pain. The procedure will involve you being exposed down to your waste is that ok? I will also need to have access to your ankles. Would you like a chaperone?'
- Gain consent and check allergies (to stickers)
- Washes hands with alcohol gel
- Indicate electrode sites on diagram
- Attach lead wires to electrodes and ensure good skin contact
- Ask the patient to 'please can you lie still without talking'
- Calibrate machine/correct settings
    - Check the standard machine setting. Speed should be 25mm/sec. Calibration should be 10 mm/mv. The ECG machine should be set to "AUTO" but always check that it is set to the desired setting.
    - Make sure that you are ready to proceed and record the ECG. Check that all electrodes are in place. If yes, then press the start button on the machine.
    - Commence ECG recording and obtain an ECG.
    - Check the ECG for any artefact. Repeat the recording if needed
- Removes ECG traces and checks for artefact
- Remove leads
- 'I would remove electrodes'
- Check patient is ok
- Label ECG with patient's details/date/time. 'I would record the findings in the patients notes'

This is not an official University document. It was made by a student as a simple review of the study material. Beware of any potential inaccuracies.

For cardiac monitoring:

- Right shoulder, over the acromion / lateral clavicle (red lead);
- Left shoulder, over the acromion / lateral clavicle (yellow lead);
- Left lower chest wall over lower ribs (green lead)

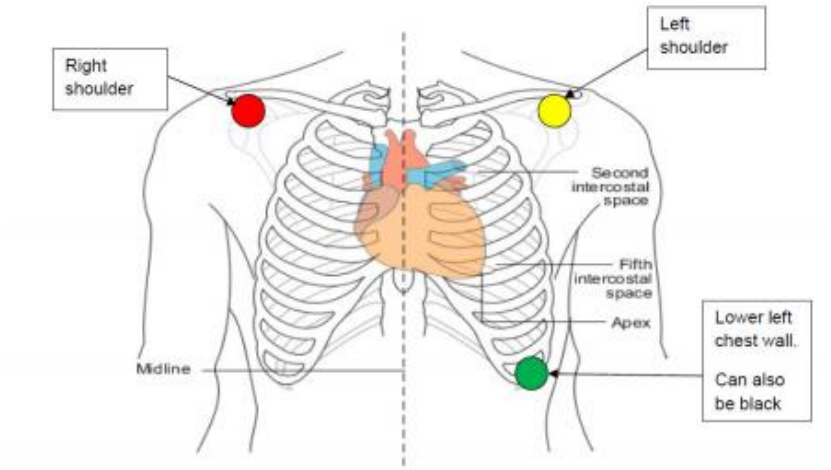

Figure 1: Diagram showing a suggested set of electrodes placement for cardiac monitoring

Cardiac monitor;

- Gather equipment
- Identify patient
- Explain the procedure-'this cardiac monitor will continually measure the rate of your heart. I am going to attach 3 little stickers to your chest, these will then attach to some leads which will attach to a monitor. Then we can monitor the trace of your heart. This will remain on for the rest of the day- you don't have to stay still but if you need to get up and go to the toilet just let us know. If your rate increases then there will be little alarms that will go off which will let the nurses know. Any questions? I will need to expose your chest if that is ok? And would you like a chaperone?'
- Gain consent and check allergies
- Washes hands with alcohol gel
- "I would prepare patient correctly for electrode placement, by cleaning with an alcohol swab and shaving hair-bearing areas if needed"
- Apply electrodes (stickers) to correct areas on the diagram.
- Attach cardiac monitor lead wires to the electrodes on the patient.
- Switches on the monitor, selects an appropriate monitoring lead and sets the alarms within safe parameters
- Check patient is ok
- 'I would check the electrode sites for any redness/itching'
- "I would record in the notes that monitoring has commenced and would make a note of the ECG rhythm on commencing monitoring

This is not an official University document. It was made by a student as a simple review of the study material. Beware of any potential inaccuracies.

2. Administering an intramuscular injection

Figure 1: Demonstrating a standard set up in a clinical skills laboratory for carrying out an intramuscular injection.

Figure 2: Hold the needle and syringe at 90º to the skin surface prior to plunging into the skin in a quick yet gentle manner.

This is not an official University document. It was made by a student as a simple review of the study material. Beware of any potential inaccuracies.

Patient has been prescribed: Stemetil (prochlorperazine) 12.5mg 8-hourly PRN, by intramuscular injection.

Equipment needed;

1. A kidney dish in which to place the equipment
2. Gloves and apron.
3. The drug (and dilutent if required) and the drug chart
4. An appropriate sized syringe.
5. Two hypodermic needles of an appropriate size and length. One to draw up the medication and the other to penetrate the muscle and administer the medication. USE THE <u>BLUE</u> NEEDLES.
6. 70% isopropyl alcohol swab to clean the skin.
7. A sharps disposal bin

- Gather equipment
- Introduce yourself
- Identify patient using the drug chart
- Explain procedure- 'today I am going to give you a little injection in buttock and as this is a deep muscle so it won't be too painful and will make you feel better soon'
- tell patient to lie in lateral position
- Gain consent and check for allergies to any medication
- "I would check the name, dose and route of administration of the drug against the prescription chart"
- "I would check the expiry date of the drug"
- Washes hands using alcohol gel
- Don gloves and apron
- Sterile technique to open the packaging
- Draw up and administer drug by IM route into buttock of the manikin (draw up 1ml of NaCl). Change needle before administering the injection.
- Sharps bin!
- Clean skin with wipe and leave to dry
- **The intramuscular injection:**
  - Re-confirm patient identity BEFORE you inject any drug
  - Injection goes into upper outer quadrant (make it obvious that you are dividing into 4 using the greater trochanter of femur as the landmark)
  - Assess site for any lesions or inflammation
  - Stretch skin around injection site
  - Insert needle 90degrees to skin surface ('just going to be a sharp scratch')
  - Leaves one third of needle visible
  - Checks needle is not in blood vessel by pulling back plunger (if blood is seen the remove needle and syringe and apply pressure to site until haemostasis has been achieved then start again with new equipment).
  - Inject meds slowly
  - Remove needle and apply pressure at site
  - Needle in sharps bin
- 'I would sign the prescription chart at patient's bedside'
- Check patient welfare

This is not an official University document. It was made by a student as a simple review of the study material. Beware of any potential inaccuracies.

3. Administering a subcutaneous injection

Figure 1: Gently pinch the skin up into a fold. Insert the needle into the skin at an angle of 45º (unless giving insulin which should be at 90º as a shorter needle is being used)

Patient has been prescribed Dalteparin 5000 units once daily SC for thromboprophylaxis.

Equipment needed;

1. A kidney dish in which to place the equipment
2. Gloves and apron.
3. The drug (and dilutent if required) and the drug chart
4. An appropriate sized syringe.
5. Two hypodermic needles of an appropriate size and length. One to draw up the medication and the other to penetrate the muscle and administer the medication. USE THE ORANGE NEEDLES.
6. 70% isopropyl alcohol swab to clean the skin.
7. A sharps disposal bin

This is not an official University document. It was made by a student as a simple review of the study material. Beware of any potential inaccuracies.

- Introduce self
- Identify patient and check with drug chart etc
- Explain procedure and then get consent and check for allergies. 'So today I've been asked just to give you a little injection just to make sure you aren't going to develop any little clots in your body whilst you're in having to stay in bed here in the hospital. It is a very routine procedure. It will be given in the skin of your tummy and it is a small and not very painful injection. '
- Check no broken skin etc around stomach. Double check for allergies with the patient.
- Prep of drug;
- Collect equipment
- "I would check the name, dose and route of administration of the drug against the prescription chart" and "I would check the expiry date of the drug"
- Wash hand with alcohol gel
- Dons apron and gloves
- Sterile technique
- Draw up drug (actually 1ml of NaCl)
- Change needle between drawing up and admin
- Sharps bin
- Identify site ('can I ask you just to expose your tummy area') and clean skin and leave to dry
- **The subcutaneous injection:**
    - Re-confirm patient identity BEFORE you inject any drug
    - Pinch skin up and warn of 'sharp scratch'
    - Insert needle at 45 degrees to skin surface
    - Insert needle into SC tissue and release skin
    - Administer drug slowly
    - Removes needle and apply pressure at puncture site
    - Dispose of sharps
- Sign prescription chart
- Check patient is ok

This is not an official University document. It was made by a student as a simple review of the study material. Beware of any potential inaccuracies.

4. Obtaining an Arterial Blood Gas sample

Patient is on oxygen therapy and you need to obtain an o2 sample

Introduce yourself, explain procedure and perform Allen's test on examiner and then rest on manikin.

NB- The syringe has heparin in - plunger should be drawn back prior to puncturing the artery. Also, make sure you put safe guard over after needle is used.

Allen's test- to determine whether the palmar arches are intact and patent, permitting either the radial or the ulnar artery to perfuse all of the digits of the hand if the other artery becomes occluded. It should be used prior to performing arterial blood sampling in case the procedure causes occlusion of the punctured artery.

- Ask the patient to make a fist.
- Find pulse on both sides
- Using your fingertips, occlude the blood flow through the radial and ulnar arteries at the wrist.
- Ask the patient to release the fist and observe the blanched appearance to the hand, while maintaining pressure on the arteries.
- Remove pressure from the ulnar artery whilst maintaining pressure on the radial artery and observe the reperfusion of the patient's hand. Observe whether all five digits are re-perfused.
- Repeat the process with the radial artery.

This is not an official University document. It was made by a student as a simple review of the study material. Beware of any potential inaccuracies.

- Introduce yourself
- Identify patient
- Explain procedure- 'today I need to do a blood test which tells us about O2 levels in your blood. This is a bit different to blood tests you might have had before- it is taken from artery and not vein and also it is taken from your wrist and not further up your arm. It might be a bit painful but I'll try and be as gentle and quick as possible. Also we will have to press on it for a lot longer afterwards too.'
- Gain consent
- Perform Allen's test- 'I'll do this to check the blood supply to your hand before we start. This was also check where I want to go in i.e. where there is good pulse in the arm'
- Gather equipment
- Wash hands with alc gel
- Dons gloves/apron
- Open equipment aseptically, prepare syringe and collect sharps bin
- **The ABG:**
    - Identify site and check for CI e.g. broken skin, no surgery on that arm? Preferred arm? No swelling or fistula in that arm?
    - Clean skin and dry
    - Draw back the syringe to approximately 1.6ml
    - Punctures the radial artery at either 45 or 90 degrees and slowly advances the needle until it is sited intra-arterial (i.e. until you get flashback)

    - Allows the syringe to fill with blood.
    - Carefully withdraws needle and applies firm pressure to the puncture site
    - Checks allergy status and secures cotton wool with tape
    - Asks the patient to press firmly for a minimum of five minutes
    - Ensures that air bubbles are expelled from the syringe and caps the sample
    - Rolls or inverts the syringe immediately to mix contents with heparin
    - States "I would analyse this sample immediately, or if there is any delay, I would put the sample in ice
    - Dispose of sharp
- Check patient is ok
- Document results in notes- including concentration of flow rate of inspired O2, site used, result of Allen's test, any complications, results of blood gas test etc.

The second part of this station includes a formative discussion with the examiner in relation to interpretation of results from an arterial blood gas sample. This will focus on the basic interpretation of the results.

This is not an official University document. It was made by a student as a simple review of the study material. Beware of any potential inaccuracies.

5. Setting up an infusion

You will need;

- Gloves and apron.
- Prescribed fluid chart
- IV drip stand
- IV Infusion set
- Saline bag
- 1 syringe
- 1 saline bottle
- 1 wipe

BEFORE YOU START- ASK;

- Check there has been no problems with the cannula since it has been in e.g. infection or swelling
- Ask about **allergies**, broken skin or rashes.
- Inform patient 'I've been asked to set up a drip for you today to put some saline fluid through your cannula today to hopefully make you feel a bit better and make sure you stay hydrated. Firstly, I will flush the cannula with some saline to make sure it is working, I will then set the drip up which will stay attached to your hand. It will not hurt but you may feel a bit of cold going up your arm. Stop me at any time if you are in pain or discomfort.'

a) Check dose/times/date/route of admin etc on the drug chart
b) Collect equipment
c) Don gloves & apron
d) Check expiry date of drug and that there has been no damage to the bag etc
e) Remove seal from infusion bag entry port aseptically
f) Open IV infusion set and make sure clamp is closed. Use to spike to pierce and insert into saline bag.
g) Hang the saline bag
h) half fill drip chamber with fluid
i) Open roller clamp and expel bubbles into kidney dish. Close roller clamp.
j) Clean cannula bung and check cannula patency by flushing with saline
k) Re-confirm patient identity BEFORE you infuse any drug
l) connect the cannula to the IV drip
m) Ensure there is the correct dripping rate;
    a. Set up infusion of 0.9% NACl via cannula at rate of 500ml/hour (should be about 3 drips per second in the chamber)
n) Fill in the fluid chart (In exam just say you would do this).
o) Thank patient and tell patient 'Are you ok? let myself or one of my colleagues know if you have any problems'

The second part of this station includes a formative discussion with the examiner in relation infusion devices. This will focus on the use of these devices and where you would expect to see them.

This is not an official University document. It was made by a student as a simple review of the study material. Beware of any potential inaccuracies.