The information presented in this publication cannot cover every medical eventuality. You are advised to consult your colleagues, the medical literature and use your clinical discretion when necessary.
Foreword

Finally, after years of medical school and countless exams you have finally reached the Holy Grail that is the realm of the House Officer. The House Officer is a rare breed of doctor who is expected to take care of all the primary calls from hospital wards and then make the necessary calls to other senior staff. You will be the person whom the patient meets the most and will remember the most after they, hopefully, leave the hospital. A good doctor is one who cares long after a busy night in hospital; taking blood tests, taking multiple acute calls and booking radiological investigations. You will undoubtedly be the first point of reference for anyone over the next few years and you will be the person whom relatives will seek out for information on their bedridden father, mother, son or daughter! Whenever this happens; take a moment of your busy schedule and give them that minute or two which they desperately need - and we can assure you that it will be much more rewarding than remembering any list off your long forgotten medical textbooks!

From our past experience we understand the need for a detailed booklet for day-to-day activities which should link what you have learnt over the past few years and help you adapt to the daily workings of being a House Officer. For this reason we have compiled this booklet - an updated version of the photocopied and spiral bound booklet which we desperately hung on to during our first years as junior doctors at the same institutions which you are now going to work in. We have tried to be as complete as possible; however as always, there is always room for improvement so please bear with us and we hope you find this as useful as we had in our first years.

Many thanks go out to all those who assisted in compiling this booklet; Dr. Kurstein Sant, Dr. Glenn Garzia, Dr. Elton Plaha, Dr. Jonathan Cutajar and Dr. Tonio Piscopo who supported us in this venture from the very beginning.

Good luck and go save some lives! 😊

Dr. Jonathan Mamo - June 2009
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Section A - The Routine Stuff

BLOOD BOTTLES - VACUTAINER

BLUE  APTT / INR
Note: Blue bottle, fill EXACTLY to the line. The bottle contains anticoagulant, too little blood and result will be spuriously high, too much and it will be low. If you want to change Warfarin dose, look at the INR, for Heparin at the APTT-R (Ratio).

YELLOW  Urea, Electrolytes and Creatinine (U&E, Creat), Ca2+, PO43-
Note: Write Urgent on the form if you need your U&E, Creatinine, Calcium, Phosphate, to be worked fast, send them separately, not with other tests, such as LFT as they won’t be worked up.

LFT, Albumin, Total Protein, Se Uric Acid, Lipids (can all go in one form), TFT and other hormones (ask specifically which) - all one form/bottle

Viral screen, BSR, antibodies, immunology tests, SPE, Ig electrophoresis

Tumour markers (ask specifically for Ca 125, CEA, PSA, a-FP, CA 19-9)

Haematinic screen (ask specifically for Se Ferritin, Folate, B12, TIBC)

HIV (informed consent is ABSOLUTELY mandatory)

For BSR, antibodies of various bacteria and urinary Legionella antigen use the yellow form without the black line in duplicate. For viral screen use the yellow form with black line again in duplicate.

PURPLE  CBC, HbA1C, Hb Electrophoresis, X-match, FFPs
Note: One purple bottle for 2 Units of X-matched PRC (packed red cells). Fill form in duplicate with all info, including full address. (CBC needs a minimum of 1ml of blood and can be worked in approx: 20 minutes. Call the lab if needed more urgently - Tel: 6330 / 6331.) Write URGENT on the form and sign again.

BLACK  ESR (fill exactly to line, and turn it upside down)

GREEN  Not in use anymore - now using Yellow instead.
GREY  RBG, FBG, Blood Alcohol Level (*don't swab with alcohol!*).
BLOOD TUBE DRAWING SEQUENCE

Draw blood in the tubes in the proper sequence. When multiple tubes are to be drawn from a single venipuncture using an evacuated tube system (e.g. BD Vacutainer® or Greiner Vacuette®), there is a correct sequence for blood collection. This prevents cross-contamination of tube additives that could cause erroneous test results. The following should be used for both plastic and glass blood collection tubes.

The order of draw:
1. Blood culture
2. Coagulation tube (blue top)
3. Serum tube with or without clot activator, with or without gel (yellow or red top)
4. Heparin tube with or without gel plasma separator (green top)
5. EDTA (purple top, pink top)
6. Oxalate and fluoride (gray top)

All tubes must be gently inverted 10 times end-to-end immediately after collection.

ANTICOAGULATION

Heparin starting dose is 6000U/6hrly. Increase or decrease by 500U and repeat APTT in 6 hrs (so write current time and time to take blood in file). APTT aim is usually 1.5 - 2.5. Stop Heparin if APTT-R is >3 and check in 6hrs. INR aim for AF and DVT prophylaxis is 2 - 2.5. For active DVT, PE or mechanical valve it is 2.5 - 3.5.

Stop/Omit Warfarin if INR is above 3.7 but use clinical judgement on how important anticoagulation is. You may just decrease the dose in that case. Loading regimen for Warfarin for 3 days is 10mg-10mg-5mg. If uncertain always check the file. There may be special instruction left by the firm.

A Warfarin Loading Guideline for VTE has been developed and is available on the CPG Intranet site (http://cpg.mdh.gov.mt) and in the Orange CPG folders in each ward.

Note: APTT/INR out of control there may be the possibility of DIC. Take an urgent CBC: it may show low platelets. Prepare forms for (Fresh Frozen Plasma) FFPs (6 units at a time).

Others If you have to order some obscure tests contact pathology reception to ask for bottles and forms. Some tests require special steps such as
warmed syringe for Cryoglobulins, or put the sample in an ice pack for Renin/Aldosterone test.

Last thing: When signing your name on forms write your registration number clearly and your name. Use carbon paper for millions of forms, but sign your name in ink.

**URINE SAMPLES**

Culture and sensitivity (C&S) - Blue form (in duplicate)
Urinalysis (U&M), Cytology - Pink Form
Urine Protein Electrophoresis - Pink form

**WOUND SWAB**

Black long tubes with swab on one end and media on the other - use green form in duplicate.

**TAKING BLOODS**

**Pain factor:** Antecubital fossa < femoral < forearm < hand < wrist < near thumb < radius < ABGs!

**Note:** Take a lesson from drug addicts - a needle can (and sometimes must!) be put anywhere-knees, shoulders, abdomen feet, but do not use varicose veins. They bruise, make haematomas, don’t heal and break down. Let drug addicts direct you where they inject usually and take blood from that site.

**Be sensitive:** women don’t like disfigurement on upper arms and legs. Cancer patients with no veins: isn’t it time to arrange for a central line?! This must be done by an anaesthetist and requires the go ahead of your consultant.

**Respect veins:** All housemen learn to respect veins to be careful not to ruin them, as we will all be back at the same spot tomorrow. Note also: dehydrated patients’ veins thrombose in the middle of blood taking and there’s not much you can do about it. Try to hold your hand steady.

You must train yourself to **go by feel and not by sight.** Veins might be bright blue but most often then not they are superficial capillaries. Train yourself to recognize that springy feel of a full vein. If you always feel for it you will be able to take blood from any patient. If you are a cool customer, for smaller veins you can use a blue needle (smaller gauge). It requires precision and patience but delivers success.

One last point which may seem obvious, **do not take blood from an arm with the IV line.** If you don’t have an alternative,
stop the drip and come back in 5 minutes, and make a note on the file that you had to use the arm with the drip to take blood. If you need to take a post-parathyroidectomy calcium level, take blood without the tourniquet. One trick that always works is to choose a good vein and get the patient to hand the arm by their side and keep it that way for 5 minutes.

OOPS!!! You’re tired, you’re rushing or the patient just has fragile veins and you’ve just blown up the vein. It looks awful but don’t panic. Take off the tourniquet as soon as possible as it increases the haematoma. Apply firm pressure for 2-5 minutes then Start Again either on the same side or by trying to put the tourniquet distal to the site of the blown up vein. This is not always possible and the end result looks terrible. At this point you can go the long way by trying to reassure patient that this is normal (even though it never happens on TV) and the bruising will go away. Just don’t give up, start to cry or look uncertain in front of the patient (or relatives). The blood tests are more important than a little bruise, and filling the patient with doubt fear and worry is worse then bruising them!

**ABGS**

Get a couple of 2 or 5ml syringes and fill them with some heparin. Squirt it all out. Get a couple of blue / orange needles. Inform the nurses beforehand so they can get someone prepared to go with the sample.
Feel for the radial pulse, swab with alcohol, hold needle perpendicular to pulse, and go for it! Gently slide the needle in or out to find the artery. Blood should spurt a bit into the syringe, bright red. The best chance of getting into an artery is the femoral area but the double-artery supply of the hand is preferred. A minimum of 0.5 ml of blood is needed. Press on area for 5 minutes, even if you’re busy. Label a pink form and write if it was taken on air or on O2, and at what concentration. Label a piece of tape, sticker, and stick it to the syringe, top it up with the blind hub and give it to the nurse.
Then WAIT for the result to come back. It takes 2 minutes to work it. If the O2 comes less then 45 mmHg or the pH is around 7.25, bad luck, you took the blood from the vein (or you have a blue, acidic patient!!). If in doubt look at the oxygen saturation; it will be relatively high in an arterial sample, even with a poor pO2.
In DKA, or bad drug overdoses look also at the pH and base excess (BE). Normal BE is -2 to +2. Interpret ABGs according to patients. Expect CO2 retention in COPD patient but it is bad news in an asthmatic one.
SO WHAT DOES IT ALL MEAN?

Sometimes your sample is contaminated with venous blood, and you’re neither here nor there.

Normal values:
- $pO_2$: 85 - 100 mmHg
- $pCO_2$: 35 - 45 mmHg
- $HCO_3$: 22 - 28 mmHg
- $O_2$ sat: 95 - 100%

(Remember this follows a sigmoidal curve so by the time $O_2$ is 75%, $pO_2$ is < 60mmHg)

When you interpret ABGs, you will usually have an idea who you are interpreting it for: a chronic COPD, a young asthmatic, a DKA, and alcohol/carbon oxide poisoning. In the later case, you would expect CO levels not to go over 5% in a heavy smoker. Remember your type 2 respiratory failure (rising $pCO_2$, tiring out, poor inspiratory effort and a silent chest)

Is this metabolic acidosis or alkalosis? Well although this rule is not fool proof, be it acidosis or alkalosis sometimes it helps to look at the most deranged value and call that the primary problem, and the less deranged value the compensation.

FEMORAL VENOUS ACCESS

Sometimes you have to go femoral to take your venous blood. Always make sure the patient is lying straight. Feel for pulse with three fingers (your hand will always be on pubic hair, or you’re too far lateral).

There, your fingertips can always feel a ridge-like depression Medial to the artery. The vein is there. This is a dirty area and needs sterilization first. Go in perpendicular like an ABG. If you do not immediately strike the jackpot, then withdraw gently and perpendicularly, and without exiting from the skin go back in perpendicular. This may reduce the likelihood of traumatizing such an important vein. PRESS for 2 - 5 minutes.

CENTRAL LINES

There are 2 ways to get blood from. Either use a syringe or a blue vacutainer needle.

1. Syringe: get one syringe for the blood and two 5mls syringes and a bottle of HepSal from the fridge
2. Get patient recumbent
3. Open one line valve (try the brown line first) and connect the 5ml syringe. Withdraw 5mls and discard
4. Then connect your syringe and take the blood
5. Snap open the HepSal, fill up a 5ml syringe with it and slowly push it back up to the line to flush it out. It is negligent
as a doctor not to flush a central line with Hepsal. Make sure you are not pushing air into the line.

**NOTE: DO NOT USE HEPSAL IN A PATIENT WITH LOW PLATELETS - ESPECIALLY IN HAEMATOLOGICAL PATIENTS!**

I should probably pause to mention here that as tempting as the lovely healthy neck veins are to us House Officers, the creatures of the night, they are not to be used. Nor are central lines are to be put in by anyone else beside an anaesthetist. Hickman lines can also be used to take blood. The usual procedure when using a Hickmann line is to use strict aseptic technique. Sterilize the tip of the line with iodine, withdraw 10mls and discard it, take the blood, flush with 10mls of saline, apply more iodine and replace with a new sterile stopper. Vascath (for dialysis) should not be tampered with at all.

**FISTULAS - WHAT’S THE BIG DEAL?**

Patients with renal failure on dialysis and even those with working kidney transplant with a working AV fistula are warned not to let ANYONE come near it with a tourniquet and a needle. The reason being is that most of the time, it seems as though all one needs to do is look at a fistula in the wrong way and it will fail. And the fistula is the patient’s lifeline to the dialysis machine. It is not just the risk of infective thrombophlebitis spreading in that arm. Anything that might interfere with the blood supply to the fistula can cause thrombosis and occlusion of the fistula and thus not even a blood pressure reading should be done on that arm.

In the kidney failure patients, it is always safest to take blood from the dorsum of the hands, and worst to take it from the wrist / antecubital fossa of the NON-dominant hand (because those are the preferred fistula sites)

**VENFLONS (A.K.A. INTRAVENOUS CANNULA)**

Rule number one: TAKE YOUR TIME! Girls, put on your hair up, guys, roll up your sleeve, grab a chair, get the patient positioned right, lower the bed railings (but remember to put them up again) and you may want to kick out your relatives. Relatives can watch you take blood, no problem. But they beg you to stop when inserting a venflon. You cannot work like that! Put on your tourniquet and WAIT - then choose your site. If you are patient, the vein will usually show itself. Choose a straight vein on a relatively flat body part. If you’re good, you
can then choose a spot the least aggravating to the patient: hands / forearm are usually kinder than the antecubital fossa or under arm; but the antecubital fossa is the great place for beginners, or for wide-bore lines.

When pushing in the venflon, pull out the needle and at the same time PULL the skin straight. You will know if you have success because you will see backflow. You can take blood from the venflon with the tourniquet on but remember to take the tourniquet off and squeeze the hand firmly over the vein when screwing in the cap or raise the arm above the level of the heart, or otherwise you will have blood spilled everywhere. It’s still a messy job.

**BROWN, WHITE & GREY:** Very large bore venflons - not for beginners. Used in patients who are losing blood and need rapid replenishment. They are very useful to treat shock and can also be used for pleural / peritoneal tapping. If this is not wide enough, ask for an ARGYLE needle. They’re like venflons, only bigger, and they come in a plastic container.

**GREEN** - for blood transfusions (always ask what it’s needed for)

**PINK** - for IV medication, IV fluids

**BLUE** - for old ladies with useless veins, useful to get the job done, but IV fluids take longer

**NOTE:** the best way to know if the venflon is in and working (apart from spilling blood everywhere) is to push some saline in. If the venflon is not in the vein you will get a mound of subcutaneous fluid forming. Venflons can clog in minutes. A patient can ‘crash’ on you with a misplaced venflon if they are not receiving their isoket, burinex, dopamine, etc. and you can get:

**‘STROKE ARM’** - relax, the oedematous, cold arm is probably not an acute stroke/arterial thrombosis; it’s probably a subcutaneous venflon that has tracked IV fluid through all the tissue planes.

If the patient JUMPS when you are giving an intravenous injection, chances are the vein is inflamed and this is the time to take the venflon and do another one on the other side. However, most antibiotics cause a burning sensation when given intravenously, and that is not the same thing.

When you can’t put in a venflon, call the graduating class above you. If they can’t then they will call the SHO in anaesthesia.

**NEEDLESTICK INJURY**

Don’t Panic! Happens to us all!
Advice: Don’t rush! Get a sharp’s box with you!
When it happens do the following:
First wash your hand under running water for 10mins squeezing out as much blood as you can.
Call the infection control unit (they are 24 hrs on call) or ask the operators to contact them and report what happened.
Inform the patient of what happened and that you are going to take blood for HIV (yellow bottle) and Hep B/C (yellow bottle).
Label the forms as urgent and write needle-stick injury. Get someone to take your blood and send them urgently to the lab.
Then you need to fill out a work injury form in case that your blood comes positive and you will need treatment. This form needs the signature of your consultant and the head of infection control unit and has to be sent to Valletta within 10 days.

**IV INJECTIONS / INFUSIONS**

You may be called to give IV treatment (e.g. first dose antibiotics etc…). Double check the name of patient and drug with treatment chart first. As you know, MAXALON is metoclopramide, BUSCOPAN is hyoscine butylbromide, FORTUM is ceftazidime, ZINACEF is cefuroxime, FLOXAPEN is flucloxacillin, ZANTAC is ranitidine, BURINEX is bumetanide, LASIX is frusemide. Always give the little 2ml one first (if you have one) and then ‘flush’ with the bigger one. Zantac really does take forever, and the antibiotics smell bad and stain your clothes.

Make sure you pinch the IV line whilst giving the injection, so that the drug doesn't escape into the IV bag. Make sure you left the patient as you found him (IV drip rate, bedside railings, lights). Some people prefer to ask the patient before giving the Augmentin if they have a penicillin allergy. In cases where allergies are uncertain - give a test dose. Use a diabetic syringe and inject a small amount of Augmentin subcutaneously and mark the area! Leave it for half an hour to an hour and check on it again. If there is no reaction then you can go ahead with the IV treatment.

**GLOVES**

I should stop here to extol the virtues of gloves. As you know, blood is not just a warm bright red liquid. It’s a living vector of diseases, often incurable ones. You sweat, wipe eyes, and experience papercuts, whatever!
Wearing gloves reduces a lot of risk, and also takes a lot of messiness away when you’re giving IVs. They also take any hesitation away from putting your finger in a patient’s mouth, or any other icky area that needs your attention.

**INFUSIONS**

Please listen to the lung bases, and check for a raised JVP, LL oedema in ALL patients in whom you are going to start or increase the IVI rate (you may need to listen higher than bases of the lung in pulmonary oedema patients, simply because they are so full of fluids). Most cases of pulmonary oedema are never given an IV infusion, and it is common to see them ‘dry’ on the wards (this is a better sign than seeing them in pulmonary oedema.)

A standard regimen is 1L 12hrly of normal (0.9%) saline alternating with 5% dextrose, with 5cc of 20% KCL in each 1L bag if they aren’t eating. If they are not drinking they need 1L 8hrly. Anything over 10cc of KCL per 1L bag should have an infusion pump to avoid K+ dumping, but many wards don’t have one so ensure good mixing of each bag.

**PRE-OPS**

Brevity is the key, but YOU are the one who’s going to alert the surgeon to a patient who is unfit for operation, one who has not stopped the Warfarin or Aspirin, one who has a new chest infection, one who has blood pressure problems or who has a coexistent problem that can be solved under the same general anaesthesia.

1. **History & Examination.** You are examining from the point of view of anaesthetist! Is he/she fit for GA? Any co-existent surgical problems?
2. **Drug History.** IMP: DRUG ALLERGIES
3. **Bloods.** CBC, U&E CREAT, RBG, and APTT/INR. Of those, the APTT/INR is the key. No surgeon will operate without a recent APTT/INR. Depending on the operation X-Match may be required.
4. **Consent form.** Signed by a senior (or yourself) and the patient
5. **ECG.** See it and make sure it’s ok
6. **CXR.** The last two points may be left out if the patient is young and fit. But if there is any co-morbidities, such as smoking or diabetes they should be ordered.

If you find anything wrong with the examination or investigations, call the secretary of anaesthesia and ask for
the anaesthetist that will be in that operation. Contact that person and inform them. They may want to review the patients themselves beforehand.

**DON’T BE AFRAID, IT’S JUST THE MEDICAL IMAGING DEPARTMENT!**

**NORMAL BOOKINGS (ELECTIVE INVESTIGATIONS)**

Fill out the white form, including the patient’s full address and telephone number. Then leave them at the booking office. Even elective MRIs need vetting! They may also need to be signed by your consultant. Then go down to the Radiology department and speak to the on-call Consultant Radiologist to sign it. Be ready to be asked about diagnosis and further management.

**VETTING**

This means getting a signature from a radiologist. All urgent scans require vetting, and there should be a good reason for booking a scan. They won’t like it to sign a “CT Abdo” for jaundice, but they don’t mind it if you write ‘h/o breast ca, deranged LFT, jaundice’. You should have an idea of what other scans/tests have shown.

Say you are desperate and need the scan to be done tomorrow. The consultant radiologist can sign it and the scan can be put under the next available appointment of any radiologist. If you need a scan to be done the same day, usually a CT Brain, you need to find the radiologist that is performing that day (just call CT room at 6703 and they will tell you.) They are likely to say leave the CT form at the CT room and it will be done later. That means success! The worst is when the radiologist on call won’t be around till after 2pm, so you have to wait to be able to find him/page and their list will be full by then.

**VENOGRAMS**

Venograms are always urgent. Just call the duty radiologist and let them know you have a patient with pain/swelling/redness/warmth and tell them you have ALREADY put in a VENFLON (as distal as possible). If you can’t do a venflon, try a blue or yellow (you can get them from anaesthesia dept). No venflon, no venogram! If there is a little vein and you think you won’t manage, call a more senior doctor or anaesthetist.
NB: We are currently in the process of abolishing Venograms as a diagnostic tool. Instead we will be mainly using Doppler US at baseline and after 5 days in dubious cases. Keep a close watch for an update in the current DVT diagnosis guideline which should come out soon.

GAMMA SCANS
Here we are talking V/Q scan or bone scans. This is Dr. Samuel’s department and similarly, if you want him to agree to do an urgent scan, better have a recent CXR and ECG (hopefully showing S1 Q3 T3) and ABGs. Call first. You may not have to bring the CXR/ECG.

BONE DENSITY
These are dropped off at the antenatal department. They require the full address and CONSULTANT SIGNATURE.

RETRIEVING OLD X-RAYS:
Not done anymore!!! Use PACS! Very old X-Rays can be ordered if requested by the radiology department.

ECHOs
Fill out the form (usually green) and, if it is elective send it to the cardiac lab by tube. If you need it urgent you have to speak to a cardiologist or senior registrar in cardiology. I find it easy to phone cardiac lab and speak to the one who is doing echoes that session.
The Perfect House Officer

Here is a word of what it takes to being the perfect house officer. Of course, all consultants, senior registrars, SHOs appreciate a knowledgeable HO, but what they love is one that seems to have the ward under their thumb. And the key to that is PRE-EMPT! Let say your firm is stuck at outpatients and you’re on the ward reviewing your new admissions. Take a look at their files. Are they for operation? Can you do their pre-ops? Admitted with chest pain? Do they have today’s ECGs and CPK? What was the Haemoglobin on admission? 8.2g/dl? In that case you can pre-empt your consultant’s decision to transfuse and x-match 2 units in reserve, and if it is microcytic to take haematinics, SPE, Haemoglobin electrophoresis (note: take haematinics before a blood transfusion)

Did they come with fits? Se Ca/Mg. CT brain, EEG etc...

Did the patient have a biopsy last week? Chase the histology result!!

You will be better at this as you go along, and knowing the system and preferences of your consultant you are assigned to.

The best way to make the whole jungle; that is the hospital, work in your favour is to learn the system and the rules, and be friendly with absolutely anyone in every department. You don’t need to pull favours from anyone, but the main lab will be more likely to work your blood at the last minute if you take them yourself or at least call them, and the head nurse is more likely to carry out your instructions if you are classified as a ‘one of the nice doctors’.

**TRANSLATING DOCTOR TALK**

**WRITTEN ON TREATMENT CHARTS**

DLY - once daily
BD, 12hrly - twice daily (may also write 1-1-0, or 1-0-1, to emphasize the timing)
TDS, 8hrly - three times a day
QID, QDS, 6hrly - four times a day
NOCTE - at night (around 10pm)
PRN - as required (e.g. TDS PRN: when required but not more than 3 times a day)
WRITTEN ON THE FILE NOTES

T, P, BP, HGT - usually when an SHO wants parameters to be checked and how often! HGT stands for HaemoGlucoTest. We should all know how to check HGTs. There is always a small calculator-sized machine on the wards. Take a test strip and insert it to the machine as the arrow shows. Wait until the machine reads ready and then add a drop of blood.

A/E - air entry
C/O - case of, complaining of
H/O - history of
D/W - discussed with
S/B - seen by
HEENT - head, ears eyes nose and throat
PERLA - pupils equal and reactive to light
JACCO - jaundice, anaemia, clubbing, cyanosis, oedema
NAD - no abnormality detected
N - Normal
Mane’ - tomorrow
NBM - nil by mouth, nothing by mouth
DKA - diabetic ketoacidosis
GCS - Glasgow coma scale
LOC - loss of consciousness
CXR - chest X-ray
CTR - cardio-thoracic ratio
WNL - within normal limits
AOS - administration of sacrament (given to all patients who are dying)
TKR - total knee replacement
MSU - mid-stream urine
C&S - culture and sensitivity

HOUSE OFFICER DUTIES

It’s a beautiful day, the sun is shining, there’s a fresh breeze in the air, birds are singing. Or so the patient’s relative is telling you, while you’re trying to take his octogenarian mother’s blood cultures, since the firm’s note half a day previously stated ‘to take blood cultures if fever persists’.

Duties tend to hit you when you least feel like them, and the only way to make them bearable is to try and get used to them as quickly as possible. In the long term they’re not half as bad as everyone portrays them to be.

CALLS

Most of the time you will be called to take bloods or obtain IV access and each patient is a potential biohazard, so wear gloves during each of these procedures. To avoid getting
bloods sent back as haemolysed, it would be ideal if bloods are taken using a vacutainer. If some veins are particularly difficult, you might find it easier to use a syringe. Never re-cap needles and always dispose of them in the sharps box. Injecting blood from the needle directly into the bottle might result in the blood getting haemolysed, so if you're using a syringe, remove the bottle's cap, remove the needle and then empty the syringe into the bottle. A butterfly needle need only be used when the patient has extremely thin veins. They might also be considered when obtaining bloods from young patients or those afraid of needles.

If upper limb vein access is particularly difficult, try obtaining blood from the radial artery, femoral vein, or femoral artery. NEVER use the brachial artery, and never use a hand having an AV fistula or a previous history of arterial embolisation. In women with a previous history of breast cancer requiring axillary clearance, avoid using the affected arm for venous access.

Regarding IV access, always make sure that before you start you have all you need i.e., 2 fixators, a non-woven swab, alcohol swab, and sharps box close by. Try to use the largest possible Venflons, as smaller ones will get blocked quicker, and will therefore need more frequent changing. Intravenous cannulas for blood transfusion need to be pink or bigger. You can usually save time and take blood when inserting a cannula, however, never use a cannula for blood letting, if it has already been used for infusions. If it is impossible to obtain access, you need to page the Anaesthesia SHO on call. Even in this case, be sure s/he finds all they need to insert a cannula ready.

"ACUTES"

Also known as: 'Dott, gliandi dmija, venflow results u unresponsive patient'

These vary greatly in urgency, and go from people unable to sleep, to those who develop acute shortness of breath. In surgery, a good number of calls deal with side effects of anaesthesia, so before switching to panic mode, check at what time anaesthesia was carried out, type of anaesthetics used, and decide whether watchful waiting would be more beneficial then trying to come up with long and useless elaborate plans. Other calls deal with providing adequate analgesia and reviewing results. Never prescribe over the phone, and even in such calls, examine a patient to make sure that the patient is really in pain.
Special attention should be given to post op CBC results when working in the surgical department. While slightly low haemoglobin is perfectly acceptable in other situations, when dealing with a post op patient, it would be best to compare the Haemoglobin level to a recent one. If there is a large drop in haemoglobin levels, check for any signs or symptoms of acute blood loss (don't forget checking the drains).

While in surgery, acute calls usually involve dealing with the presenting complaint, and most of the patients are otherwise stable, in medicine, things are rather different. To start off with, patients are on average older than in other specialties, and so have a number of co morbidities, so before starting new drugs check if there are any you can stop in the first place, and when you do start a drug, go through the treatment chart to check if there are any drugs that could interact with the ones you started, or which need to be stopped since they antagonize the drug you started.

If you're working Obs & Gynae duties, except from dealing with the usual routines of clerking, blood letting and attending to acute calls; you are also expected to suture episiotomies. During the first duties, SHOs are most of the time more than happy to show you how to suture, until you gain enough confidence to be able to do them unattended.

Always document what you get out of the history and examination in the file.

If you feel that an acute requires more experience than that of a house-officer, call your BST, however before doing so, be sure to have examined the patient thoroughly and to have all his results at hand. Answering each of your senior’s questions with an ‘I'll check’, isn’t looked upon too favourably.

When called to certify a dead person, write down at what time the patient passed away, and what made you conclude that the patient is actually dead.

Finally, a word of advice: Build a good relationship with those you’re working your duties with, be it seniors, fellow house officers, or nurses. Duties won’t be the nicest hours of your life...working them with people you can’t rely on will only make them worse.

**CLINICAL PRACTICE GUIDELINES AND BNF**

Whatever acute you’re dealing with, remember that local guidelines are available on the MDH intranet. To access these guidelines just click the CPG icon on your desktop, or type the address: [http://cpg.mdh.gov.mt](http://cpg.mdh.gov.mt). The guidelines can also be consulted as a hard copy. These are found in the ominous orange folder gracing each nursing desk.
Online BNF can either be accessed directly from the above link, or through its shortcut: http://vp002/bnf/ or http://mdhserv/bnf

RESULTS
Results do tend to take up a good chunk of your time. When reviewing them, check whether or not the firm already noted them from iSoft. If they have already been seen; just sign your name and write already seen. Whenever you check a result, be sure to sign your name and medical council number. If you feel that a result doesn’t change anything in management, don’t add anything else. If there’s anything you need to change, write a note in the file, not on the result itself. **Remember: the next day you’re going to be rather tired, so if you have any free time during a duty, try and finish some work for the next day. Believe me… you’ll need to go home as early as possible and rest.**
Once being given the CPR pager, you must avoid being indisposed when it starts beeping. Once you arrive on site, you must ensure that the patient has IV access. If he hasn’t already got IV access then quickly ask one of the nurses to take over the compressions while you obtain access. Once the Medicine SR arrives it will be him who will be directing everyone what to do. You’re usually expected to carry out compressions, shock the patient if needed, and take bloods (usually electrolytes, and ABGs - if a pulse is obtained).
Section B - Acute Calls on the Wards

CHEST PAIN

Some clinical features on a patient are quite reliable and can certainly not be ignored.

History of chest pain: It is well known that the history is the single most important diagnostic tool that any doctor possesses. Although ECGs and CPK/Troponins are very useful, all these will only be of use in the context of a relevant history. There are a few important things to ask when taking a history for chest pain.

Ask if the patient had any associated shortness of breath, which may signify a degree of heart failure although this may even occur if it is painful to breath (such as in severe musculoskeletal pain). Sweating is yet another important symptom to ask for since as mentioned before it is indicative of problems. No healthy person sits there with perspiration on their faces, except maybe in the dead of summer. Sweating means bad news most of the time: hypoglycaemia, fever, myocardial infarction, shock, pulmonary oedema, pulmonary embolism.

Nausea and vomiting should not be left out. A number of patients who suffer from an acute coronary symptom will be nauseated and may vomit. It is very important to ask details about the pain, primarily the site, the timing of onset, the character (burning, pressure like, etc…), any radiation, any associations (with food, with breathing, with movement). This will help further your differential diagnosis.

Finally one should not leave out other important aspects of the history such as the presence of palpitations, dizziness, prior shortness of breath or chest pain on exertion, presence of orthopnoea, and history of previous similar episodes or other ischaemic episodes, smoking, drugs (especially cocaine), diabetes, etc…

IMPORTANT PITFALLS

A lot of patients with ACS complain of a burning epigastric pain just as a lot of patients with acid reflux complain of central non-burning chest pain, therefore be on the alert! In this context response to GTN or antacids are useful but not diagnostic!
Pain is not a feature in 100% of cases with acute heart problems. Other symptoms such as dizziness, sweating, shortness of breath should also be taken seriously in the absence of chest pain.

In a true cardiovascular event (ischaemia, infarct, dissection, pulmonary embolism, pericarditis, aneurysm) the ECG and CPK may all be normal (especially in the acute phase)! Serial measurements will always be needed where there is a suspicion of such problems.

**THINGS TO DO**

It’s a hassle but in all complaints of chest pain, you must take a brief history of the pain (get file to help), examine the patient and take Cardiac Enzymes (CK MB + Troponin I) as per the Acute Chest Pain Management Guideline and ECG. Then compare all your findings with those in the file. The examination is very important as it will help you make up your differential diagnosis. Remember to listen to the chest for any signs such as basal crackles (the absence of signs may also be helpful as in the case of a PE). Remember to have a quick listen to the valves (any new murmurs?). Next examine the abdomen which may be the origin of the pain.

Often people forget to check the femoral pulses for strength and right to left changes. Changes here may signify a dissected aneurysm which may present with chest pain. Also remember to check the legs for pitting oedema and calf tenderness (DVT causing PE). Blood pressure and temperature should not be left out. A low blood pressure may signify a degree of shock which may be cardiogenic in nature. Other things to check are the eyes for anaemia (may be a cause for chest pain), reproducibility of the chest pain (usually musculoskeletal pains may be reproduced on direct pressure to site of pain), general look of the patient (a patient who has normal parameters but still looks awful, probably still has something wrong so keep looking!)

**CARDIAC ENZYMES (CK±MB)**

This is probably the test a house officer will need to interpret the most. You will see hundreds of these during your foundation years. The normal range is always given on the result sheet and this is usually corrected for patient’s age and sex. One result on its own is usually not as useful as two or ideally three results compared. CK rises around 6 hours post infarction. It peaks 18h later and returns to normal 2-3 days later. The first CK is always taken at A&E so if you’re looking at a new result in the ward it’s usually a second or a third CK.
The CK level is given with the CK-MB measurement and the MB ratio. The MB ratio is useful to decide whether a high CK level (usually above 300U/L) is coming from the heart or not. A ratio between 6%-25% is considered within cardiac range. Out of range increases in CKs may be due to trauma, myositis, and other causes of muscle damage. When comparing two results, any increase in CK means there is ongoing damage and has to be taken seriously.

A high CK (in range) which is less than a previous CK usually means that resolution is on the way. It is important to note that at low levels of CK the MB ratio is not as accurate as at higher levels (which will get you to see a number of 300U/L with ratio of 6%). These still need to be taken seriously in the context of chest pain.

TROPONINS

It is important to know some information about them, since they have recently been introduced. Troponins I and T are subunits of the complex that is involved in the regulation of the calcium-mediated contractile process of cardiac muscles. A rise in the level can be seen 3-12h after the damage occurs and usually they peak at around 24h. It usually takes 10-14 days for normal levels to be restored. It is important to note that false positives can be seen in patients with renal failure and in patients with diabetes. In view of these it is still recommended to take serial troponins a few hours after the first one. See the full guideline at http://cpg.mdh.gov.mt or in the Orange folders on the ward.

ECGS

You’re on duty and you’re called to review a stack of “elective” ECGs. It’s time to get out the patient’s file and compare the new ECG to other recent ones and check for any new changes. WARNING!!! Don’t fall into the habit of just comparing, seeing no new changes and writing “continue same”. It is always important to have a good look at an ECG before committing yourself. Let’s say a patient was admitted on Saturday afternoon, you’re on duty on Sunday, and the last two house officers before you have passed off the ECG as normal. The consultant won’t get to see the patient or the ECG until Monday so it up to you not to add to the continuous stream of “No new changes, continue same”!

If the ECG is poor quality don’t hesitate to request another, better ECG. For example if you get an ECG with persistent low-grade oscillations, take the patient’s temperature and if it comes to 36oC (limit of thermometer) get a low-reading
thermometer from A&E Dept. You will feel so good for having picked up hypothermia by seeing the shivering on the ECG, and you would also have saved the patient’s life! Some common mistakes regarding ECG interpretation can be avoided by looking at an ECG carefully and not dismissing it as normal after a few seconds.

LBBB is very misleading. Check if it was present before. If not it may be due to a fast AF or an SVT with a rapid ventricular response - the p waves are usually well hidden. LBBB may mask other abnormalities in the ECG so it is very difficult to interpret an ECG with LBBB. In the case of an SVT try the Valsalva manoeuvre (get the patient to blow through a 20cc syringe), and the carotid body massage. Keep the patient on monitor and check for any changes. If these methods don’t work Adenosine may be used (6mg, 12mg, 12mg). This may either stop an SVT or unmask flutter waves. In the case of flutter the rate is usually 150bpm so if you see such a rate always think about atrial flutter.

In any new arrhythmia always check the electrolytes as an imbalance is a common cause of arrhythmias (especially potassium). Similarly find out if the patient is on digoxin as digoxin toxicity is a common cause of arrhythmia (especially in the presence of low potassium). Always be on the lookout for new ischaemic changes and be wary of posterior MIs as they may be very tricky to pick up (ST depressions in V1-V3 and tall R waves in V1-V3). Also make sure to remember the associations of ECG leads.

I + aVL (+ V5-V6): lateral (anterolateral)
II + III + aVF: inferior
V1-V4: Anterior (anteroseptal)

One last note about Ventricular tachycardia/fibrillation; if you pick up one of these on a monitor it is time to call a senior. In the case of VT the patient may be feeling very unwell, sweating or confused with low blood pressure and clinical signs of decompensation. You will see VFs during CPRs but if you witness the start of it, you may try thumping the patient’s chest and immediately start CPR and have someone page the CPR team. Such patients with VT and VF will usually need urgent DC cardioversion.
LOW URINE OUTPUT

You will be paged a number of times because of decreased urine output. This may be noticed by the nurses or by relatives, or even by the patients himself. As a rough guide, 1ml/min is normal therefore 60ml/hr would be fine. 30-50ml/hr can be considered as oliguria and less than that can also be considered as anuria. Low urine output is different to no urine output. In the latter case, it can drop on your head out of the blue, in a previously well patient or with no known history of such problems. But low urine output is not so much a diagnostic problem as much as a management problem. Most of the time the patient will have several co-morbidities; such as CHF/pulmonary oedema, CRF or dehydration. These may in themselves be the cause of the problem. If none of these are appropriate, then check the cannula (may not be in place so
patient may not be getting any fluids or may be of narrow bore which cannot give much of flow). Take a close look at input/output (I/O) charts. Make sure to catheterize the patients so as to be able to monitor urine output with a urinometer. If on the charts you notice a positive balance (like +1000ml) than that would mean that the patient has taken in a litre more than he has passed (taking extra care to include extra renal losses). This would mean that the patient probably has an output problem which may be solved by giving diuretics (provided there is no obstruction). Usually in such a case the positive fluid balance may show itself as fluid overload (oedema). If the fluid level is negative then the patient is probably not getting enough fluids. In that case either push oral or IV fluids. It is important to check serum urea and creatinine in such cases and follow up the results yourself.

**NO URINE OUTPUT**

As previously mentioned this can be found in a previously well patient. The commonest cause is BPH or post op with acute urinary retention. By the time you get to see the patient the bladder would already be palpable and percussable. The treatment for this is to insert a catheter. Always make note of the residual volume of urine (the amount that comes out immediately after you put in the catheter). If there is difficulty to insert it, contact the urologist on call.

A more sinister problem is when you don’t actually feel a bladder and there is no residual urine in the bladder on insertion of a catheter. Your patient may be showing signs of fluid overload or dehydration. Always make sure the catheter is patent by asking the nurses to flush it. If this doesn’t solve the problem, take urgent blood tests (CBC, U&E + Creatinine) and administer a dose of diuretic. If the patient s not showing any signs of fluid overload, a fluid challenge test with 500ml of saline may be tried. Make sure to check the file and treatment charts for any possible causes for ARF (recent surgery, chemotherapy, Gentamycin, thrombotic tendency).

It is imperative to check the pulse blood pressure and temperature as patient may be in shock. If this is the case insert a large bore cannula and start the patient on gelofundin. Finally contact your senior and make sure you know all the salient facts about the case so as to be able to present the case as thoroughly as possible.
POTASSIUM (K⁺) LEVELS

We take normal potassium level as lying between 3.5mmol/L and 5.0mmol/L. This is obviously arbitrary and you can expect people on long term diuretics and those with chronic renal impairment to be running around with levels somewhere between 3.0 and 5.9mmol/L. On a night duty I would check the treatment chart when challenged with an abnormal potassium level. This is because a patient may be getting potassium supplementation (due to previously having low potassium) in the form of excess Slow K or IV KCL. He may also be getting treatment with ACE inhibitors or Spironolactone. You may easily go around this by just withholding that night’s dose and make a note for the firm to fix the dose the next day. On the other hand low potassium (e.g. 3.1mmol/L) may be harmless to most people but may be detrimental to someone on Digoxin, so make sure to replace it adequately.

The average healthy person needs 1mmol/kg/day of K⁺. So in a 75kg man, that’s 75mmol/day, not considering the extra losses from diuretics, diarrhoea or vomiting. If the patient is not eating, that amount has to be supplemented.

Slow K has 8mmol per tablet (5 tabs = 40mmol)
KCl syrup has 1 mmol/ml
10ml of 20% KCl has 27mmol. This can be quite tricky especially when calculating K+ regimens for a new DKA in the middle of the night. 15ml of 20% KCl has 40mmol which is the maximum you can give in 1L.

The maximum rate of your 15ml of 20% KCl in a litre (40mmol) is 1L/2hrs which works out as 20mmol/hr.

Any KCl in an IVI of a concentration of 10ml of 20% or more requires the use of an infusion pump to control the rate to avoid K⁺ dumping. It is important to shake all bags with KCL very well in order to avoid precipitation of the KCl which may be lethal.

The easiest way to correct a mild K⁺ deficiency is to give 2 tabs of Slow K or 15ml of KCl syrup as a stat dose or if the oral route cannot be used and the patient is on an IVI, give 5-10ml of 20% KCl per L of saline. This is also good to set up if the patient is having losses through diarrhoea or vomiting. More serious deficits usually have to be treated with IV KCl with repeats of U&E after a few hours.

Let’s say you get a massively high K⁺ like 7mmol/L. don’t panic; check the notes for any history of high K⁺. If this is the first incident (say the day before the patient had a perfectly normal K⁺), then retake the U&Es urgently since they may be
haemolysed. If it is not the first incident recheck U&Es but start prompt treatment. Always get an ECG to exclude any changes. If you are minimally stuck with how you are going to treat the patient, head over to the desk and ask for the CPG orange folder, or double click on the CPG icon on every single computer in the hospital. Here you will find guidelines about a lot of important aspects in clinical medicine. You can also find guides on management of hypo- and hyperkalaemia.

- **<2mmol/L**: inform your senior and they may admit to CCU/ICU/HDU, 40mmol KCL in 100ml IV fluid over 1h through central vein. Oral supplementation if well tolerated.
- **2.0-2.4mmol/L**: inform senior, give KCl in saline at maximum rate of 20mmol/hr max. conc. Of 40mmol/L (may go higher if through central vein).
- **2.5-2.9mmol/L**: treat orally with KCl syrup/Slow K 6h if asymptomatic or with IV KCl at 10mmol/h if symptomatic or has cardiac disease.
- **3.0-3.4mmol/L**: KCl syrup 15ml 6-8h/Slow K 2 tabs 6-8h
- **3.5-5.1mmol/L**: NORMAL POTASSIUM
- **5.2-5.4mmol/L**: no active correction, modify cause if found, change treatment if necessary
- **5.5-5.9mmol/L**: take ECG, if no changes give 15g TDS/QDS Ca Resonium (after correcting cause), if ECG changes also give 50ml of 50% dextrose with 10U Actrapid over 30 minutes through large vein and 10ml of 10% Ca Gluconate over 10 minutes.
- **>6.0mmol/L**: Correct cause, inform senior, give 10ml of 10% Ca Gluconate IV over 10 minutes (may repeat every 20 minutes up to 50ml), give 50ml of 50% dextrose with 10 U Actrapid over 30 minutes (monitor HGT), continue with 5% dextrose infusion at 12h rate, check ABGs and correct acidosis if present with 50ml of 8.4% sodium bicarbonate IV over 30 min, give Ca Resonium. Make sure to repeat U&Es

**OH NO! NA⁺ IS 115MMOL/L!**

You're thinking about how a low concentration of sodium will cause water to shift into brain cells in an attempt to equilibrate by osmosis. You’re thinking (correctly) in the chronic cases, you can expect some mild chronic brain oedema. And you know that rapid correction of the sodium causes water to shift back from the brain cells, causing brain cells shrinkage and myelinolysis… But when you start thinking about setting up an IVI of sodium in all patients, STOP and consider the following.
In cases of CHF, chronic liver failure and severe non-dialysing renal failure, these people are actually in sodium retention. Their rennin-angiotensin-aldosterone system is working overtime in an attempt to build up some blood pressure in order to supply the kidneys in spite of the heart being weak. You can go a long way in such patients by restricting oral fluid intake to something like 1.5L/day rather than supplying saline. If you check the file, often you will find an enormous volume with episodes of pulmonary oedema and chronic low (apparent) sodium. On the other hand, sometimes in the struggle with oedema and diuretics, it becomes difficult to control the sodium level and in very low values it will still be necessary to administer saline.

So the take home message here is to examine the patient, looking specifically for signs of fluid overload or dehydration. If you are seeing decreased skin turgor, low urine output, then by all means start the patient on an IVI with 500ml running (make sure the patient can handle it), and then slower for the next hours.

**VERY HIGH BLOOD PRESSURE**

A common page is for a patient with a persistently high blood pressure in the range of 190/90mmHg. The first thing you should do is go over the patient’s treatment and even check for any changes in treatment by checking old treatment charts. Most commonly the reason is that someone forgot to write his proper treatment on the chart and the patient is not having his amlo/burinex/isordil/atenolol regimen! Next speak to the patient and assess if he or she is anxious about something, possibly scared about what they may have or maybe about an operation the next day. Try to reassure the patient and if necessary you may give him a small dose of Ativan (1mg PO) but try to stay away as much as possible. Obviously make sure to check his blood results for any evidence of renal failure. In the case of an isolated increase in blood pressure, the best option is to leave a note on the file to let people know about it. If it has been high for around 24-48 hours try to make use of a selective B-blocker like Atenolol. It has a fast action and dose can range from 25mg-100mg and side effects are minimal. In the case of an asthmatic patient, bradycardia or a patient with cardiac failure, a diuretic may be safer. In the long term Amlodipine 5-10mg daily is a good option. In the case of high blood pressure following an intracerebral bleed, it is best to leave blood pressure alone at first (if below 200/120mmHg) as it usually comes down on its own. On the other hand, following
a subarachnoid bleed it is important to control the blood pressure, maintain bed rest and avoid increased intra thoracic or intra abdominal pressure.

ABDOMINAL PAIN

Unfortunately and as you know, abdominal pain can come from such a multitude of source, ranging from the lonely neglected patient making noise to acute pancreatitis or AAA that it is difficult to offer any specific advice on how to handle it. More than any other problem you will face, abdominal pain requires all your best clinical skills and judgement. It is important to check blood pressure (and if possible check for a postural drop as this can tell you a lot). Guarding is hard to positively elicit as everyone seems to contract their muscles out of fear when you touch them so try to reassure the patient. Although rebound tenderness is a useful sign, it can be very painful so try to keep away from it. Instead use percussion tenderness which pretty much tells you the same thing, and that is that there is peritoneal irritation.

As such your job is not to come out with a definitive diagnosis, but to assess the patient and decide if you have an acute problem on your hands. You can benefit a lot by reading through the file (DKA/cancer patients always have some kind of abdominal pain). Simply asking when the patient last opened his bowels will give you a working diagnosis of constipation which is impressively common in hospital. Other things can be excluded with simple questions. If you still haven’t come up with a working differential, and the patient is still in pain or hypotensive assume the worst.

Take the necessary investigations in the form of a CBC, U&E&Cr, INR, amylase and make sure to X-match 4-6 units of blood (especially if you’re thinking along the lines of a leaking AAA). Then start a colloid running and if the patient is in a lot of pain, a bit of analgesia won’t hurt (it helps symptoms whilst not masking the signs).

A PR exam will please your senior when you eventually present the case to him, whilst helping you in assessing GI bleeds or the finding of faecal impaction. Remember the hernial orifices, the temperature, the femoral pulses, Murphy’s sign, renal punches, any pulsatile masses and bowel sounds. If you suspect obstruction (abdominal pain, not passing flatus, vomiting, etc…) pass an NG tube, change all medication to IV and start up an IV.

An NG tube should also be inserted in cases of haematemesis in order to assess the losses. X rays may be helpful. Fluid
levels in an erect abdomen may herald obstruction. Air under the diaphragm in a CXR usually signifies perforation. If constipation is the problem, then an AXR may show gross faecal loading.

In any case, abdominal pain should be tackled seriously and holistically. A good history, a careful examination and prompt and appropriate investigations will certainly help in making your diagnosis. And if you can't come up with a diagnosis on your own, don't panic. Consult your senior, and present him with your findings. Your senior will not mind seeing the patient after you show him that you did everything you could!

**SHORTNESS OF BREATH**

An asthmatic patient with SOB is a number one priority. Such a patient can go from just mild SOB to silent chest in 15-20 minutes. In such cases most of the time it’s more about assessing severity and managing than making a diagnosis. If the diagnosis is in question than a chest X-ray may help but this should never precede a good clinical examination. An X-ray will help you confirm a pneumothorax or an effusion.

**SO HOW BAD IS IT?**

The respiratory rate is not such a useful sign as patient may be hyperventilating. Listen for air entry, blood pressure and pulse, PFR, temperature, ECG (think of AF or ACS). Ask the patient about previous such episodes and ask him to compare this to the other episodes. The patient can tell you a lot about severity.

In SOB never miss checking the pulse and blood pressure as most treatments you give will affect these. Don't be scared or shy to take ABGs, they can help a lot in showing a patient retaining CO₂. It may help to have a reading on air prior to treatment and a reading after treatment to see changes. COPD can deteriorate because of a high PCO₂. Make sure to put them patient on the right mask (24 - 28% for COPD patients).

Ventolin and Atrovent nebulisers are very useful and should be given to a patient who is wheezing together with a first dose of 100mg/200mg Hydrocortisone (make sure there are no contraindications). Ventolin may be repeated even at intervals of just 15 minutes but if the patient is so severely short of breath by this time you should already have called a senior. In a patient with pulmonary oedema, giving nebulizers will not help the patient and only waste time. Give the patient Burinex
intravenously at 1mg or 2mg doses (don't go higher than 4mg on your own).
Also make sure to remember to prop up the patient and give him high flow oxygen. If the pulmonary oedema is severe start the patient on an Isoket infusion at 2ml/hr but always make sure to know his blood pressure before as Isoket can drop blood pressure very rapidly. Keep on monitoring blood pressure and contact you senior.

WHEN TO PANIC (OR NOT TO)?
As much as possible you have to try stay in control of the situation. Expect CO$_2$ retention in a COPD patient and make sure they are not on high concentration oxygen. In asthmatic patients you need to overestimate the severity of the situation in order to treat properly. Any retention of CO$_2$ even in an asthmatic with 100% O$_2$ flow (non-rebreather) is bad news and you should contact the senior. Find out if the patient has ever needed intubation and ITU admission. Get help early and if the patient says he feels more comfortably sitting up, don't lie him down just to check for... hepatomegaly!
Just a little word on how to prevent an SOB: listen to all lung bases, if you can look for the JVP and check for a history of pulmonary oedema before starting or increasing an IVI. Also make sure to be very careful in giving sedation to patients (e.g. with Ativan) as this may put the patient in a state of depressed respiration and precipitate SOB. The same thing applies for the use of Opioids.

FEVER
If a patient is febrile and on antibiotics it's usually safe to ask some questions and look for a new source of infection, but otherwise treat with Paracetamol (1g 6 hourly) or Aspegic (500mg-1g 6 hourly, keeping in mind any bleeding tendencies or asthmatics). If the patient is on no antibiotics check the history for: cancer and night fevers, recent or ongoing blood transfusions. Then try to find the source. Usually you won't be able to, except maybe if the patient is passing pyuria into a catheter or is coughing up purulent sputum. If the cause is a UTI in a catheterized patient it is important to weigh the benefits of leaving the catheter in (may be very difficult to re-insert in some patients, or patient may have a tendency to go in retention). In any case take a urine and a blood culture, and a U&M (which will give you a quicker indication of a UTI).
In a surgical ward make sure to check any wounds following operations or any drains. In a diabetic ask if the patient has
any ulcers and you may need to check in between the toes to make sure. In the case of bed bound patients, it is important to check for sacral sores or any other pressure sores. Make sure to check the calves for DVT. Last but certainly not least check the cannula site. If it is minimally inflamed just remove it and reinsert another one at another site. Venflons are very common sites of infection.

Blood cultures are routinely done when the temperature goes over 101°F but sometimes you need to have a lower threshold. In feeble old patients or in an immuno-suppressed patient (or in a patient who is on immunosuppressive therapy) you should take cultures even if you have the slightest doubt. If you cannot find a focus always try to get a U+M (if possible a urinalysis as this may show you protein and blood within minutes giving you a clue that it may be a UTI). Also check the treatment chart for any new treatment especially neuroleptics to avoid missing NMS.

Make sure to check the blood pressure to rule out septic shock. If you suspect such causes (or something like a thyroid storm) make sure to contact you senior as soon as possible).

**TAKING BLOOD CULTURES**

Blood cultures may be life saving or completely useless. They are mostly useful in cases where the usual antibiotics fail to deliver after a few days. The result usually gives you the culprit bacterium together with sensitivities. The problem is that they take a few days to be worked and by that time, the patient may either be out of hospital or may also have passed away because of the infection. So it is of utmost importance to avoid submitting a contaminated as this will only prolong your wait for the result. Unfortunately even if you take a perfect sample, you could still get a “No bacteria cultivated” result, but at least that would mean you did your job well.

Blood cultures need to be taken with strict aseptic technique. Getting help from a nurse or a fellow house officer is very useful and time saving. **Sterile gloves** should be used, and you should also get used to the size which fits you most comfortably. Everything you need for the process (**20cc syringe, 1 green and 2 pink needles**) should be placed in an open sterile pack (make sure you don’t touch the insides of it whilst opening it). The yellow bag inside it may be passed on to your helper and this may be used to throw away the swabs after use. Remove the swabs and pincers (make sure to be wearing gloves), and have your assistant put a generous amount of iodine into the container. Whether you’re using a
syringe or a Vaccutainer, the most important thing is to have the site of injection completely sterile. This is done by repeated washings with iodine (Bethadine) soaked sterile swabs. This should be done around 2-3 times (and ideally in circles spiraling from the site of the vein outwards). Next, without touching anywhere that isn’t sterile; take some blood from the vein (make sure to feel the vein well before you go all sterile).

The next thing is to change the green needle with the first of the pink ones and put 5-10cc of blood in the blue-capped glass bottle. Next change to the other pink needle and pour another 5-10cc into the yellow-capped glass bottle. There are also some new plastic bottles – please use the orange and green capped ones. If in doubt do take the time to contact the Pathology lab on 6300/1. Better take the samples properly once!! (If the patient was already on antibiotics make sure to use the appropriate bottles).

Clean up the mess and inform the patient that the iodine can be removed with washing. Finally fill up two duplicate green culture forms (so you’ll need to fill up 4 forms) making sure to write what antibiotics the patient is on if any.

The same process can be used to take mycotic cultures if you’re suspecting a fungal septicaemia or a mycobacterial culture if TB is suspected.

Always remember to take a sharps box with you! Beware contaminated needles and sharps at ALL times!

THE CONFUSED PATIENT (GROAN!)

You can usually spot these patients from a mile away: lying diagonally on the beds, bed sheets thrown everywhere, clothes stained with blood from the pulled out cannula, patient rambling on in a hitherto-unheard-of language, trying to get out of bed/ward. On the other hand, confusion can present so subtly, it can be missed for days, and it will be up to you to manage the patient for the first time since the diagnosis of confusion.

The patient may know everything: the place the day, the time, current local and world affairs, advanced calculus, and yet may not be able to tell their own children apart from the patient next to them. On a less busy night, it presents a really nice diagnostic challenge as confusion can result from pretty much ... ANYTHING. On a busy, hectic night, one will not appreciate the challenge so much, as you have to find out what is causing it, and make it better!

Perhaps one should mention the common things:
Infections including UTI's, Respiratory Tract Infections
Hypoxia
Hypoglycaemia
Dehydration
Atrial Fibrillation
Urinary retention
Fever
Metabolic Causes (Hyponatraemia, Hypo/Hyperkalaemia)

After that, anything goes: hypothermia, hyper/hypothyroidism, new surroundings, medical treatment, acute MI, acute PE, CVA to plain old senile dementia, plus and exhaustive list of all known problems in medicine/surgery.

The only way to get past this mountain is to systematically examine the entire patient, be sure not to miss anything, do a thorough check of the bedside charts and do an HGT yourself, check urine output and the cloudiness of the urine in the catheter bag, temperature, ECG, routine bloods with CK, ± ABGs and review the patient's notes. Try to get a feeling of what the patient was like beforehand from the nurses and from the notes of the file. Do not forget to check previous admissions for similar episodes.

If it's urinary retention, solving that problem usually brings about a decrease in the confusion in one hour. If it's a hypoxic COPD, check the ABGs for a rise in CO2 retention, and try switching to a lower concentration Oxygen. The patient may be so aggressive that you may have to 2.5 - 5mg haloperidol (Serenace) intravenous or 5mg intramuscular just to examine the patient. Get venous access (if the patient doesn't have) and take bloods. (With IM injections you may have to wait 2 hours for a response). That is acceptable. What is NEVER acceptable is simply sedating a confused patient without trying to achieve a diagnosis. Of course your (and the other patients whose sleep was being disturbed) problem has been solved, but confusion is the bid blaring warning light that something is wrong, and you must find out what that is and treat it!

LOW HAEMOGLOBIN - WHEN TO TRANSFUSE

As previously mentioned, it is always attempted to defer transfusion for the next day when a full crew is on hand and more light is available, in the event of a reaction. Haemoglobin of 9-11g/dL, which appears chronic in nature, may be left for the firm the day after. Always check the previous results from iSoft and check the file for any note left by the firm regarding
the haemoglobin. Sometimes a firm would be expecting a low haemoglobin result and that would save you a lot of trouble (and time!) If you are uncertain, it is commendable to have a look at the patient and assess for cardiovascular stability. A Haemoglobin result of 8-9g/dL when chronic may be left to the firm also but examined the patient and do the firm (and the patient) a favour by cross-matching 2 units on RCC in reserve. Anything under 8g/dL in a chronic setting and you should contact your immediate senior for advice. That is after you have examined the patient thoroughly and skinned through the file.

In the acute setting (e.g. 2 days ago it was 11g/dL and today it is 8g/dL) you have to assess the patient more fully. Look for losses (in the catheter), question the patient for losses (maelena, bleeding PR, haematuria, haematemesis, haemoptysis), examine for stability (Pulse rate, Blood pressure) and examine for losses (including doing a PR). If stable, cross match 2-3 units and repeat the Haemoglobin. Needless to say follow up the result yourself in order to decide whether to transfuse later on or to wait for the firm the day after. Often in this setting you will find a high urea reflecting some kind of GI bleed. If you find a very low Hb (e.g. 4) check the file for some type of blood dyscrasia (some of the patients are used to a Haemoglobin level of 4 or less!) or indication of chronicity. If this is all new, then examine and treat for any shock (fluids etc.) and roughly estimate to cross match 2U for every 1g/dL that you need to build up. But do not transfuse without the go ahead from your senior.

TREATING THE RELATIVES

You can’t detach the limbs from a living body, and likewise you can’t detach a patient from their relatives (or the relatives from the patient!). It’s life, and as hard as some physicians grudge to admit it, but sometimes having the patients’ friends and family over and indulging their whims does more to treat the patient than any most valiant medical efforts. Relatives will come up to you at all times asking information about your (and other doctors’!) patients. Forget making an appointment; they will always come when you are at your busiest, and expect instant attention. Sometimes they will ask questions about the state of a new admission that you haven’t seen yet! When you are just about to brush them off or to be extra short tempered with them, try to keep in mind that relatives have two main motives for the sometimes outrageous things they do. One is fear, and the other is guilt. It should not concern you
which is which, nor the reasons why. But they are human, and
fear and guilt can make normal people act aggressionly,
understand nothing of what you tell them, and point out lots of
little holes in the patient’s treatment that need correction. In
this setting, REASSURANCE can be a powerful cure. Maybe
you can’t reassure them. Maybe the patient is going to die and
you know it. It still helps to sit down with them and explain
what is going on. Try to explain things in as simple terminology
as possible.

Even well educated people will not understand what
pulmonary oedema is all about - but will understand when you
tell them that the patient has water in the lungs. Sometimes
they need one short moment to vent their anguish that they
have been holding in, and then they go on their way again.
And if you can’t explain, for example you’re called to do a
cannula on a patient who looks bad but who isn’t “yours”, then
be professional, patient and sympathetic with them, but don’t
be lured into explaining anything in a case you don’t know. In
all cases, be honest and don’t give relatives (and patients)
false hopes, however don’t go to the other extreme in
prophesising the end of the world for the patient. Be realistic!

Frequently, the only reason you will be asked to review a
patient will be because the relatives noticed that the patient
was in pain/not passing urine/not looking good. And almost
just as often, on direct inspection/examination, the patient
feels no pain/passing good volumes of urine/looks fine to you.
But you still have to check out the complaint. And when you
find nothing wrong, that’s a good time to try to reassure them
and that the patient is receiving the best treatment. On the
other hand, there are many times that the first people to notice
the deterioration of a patient are the relatives. They too would
have noticed failure of administration of certain
treatment/fainting episodes/decreased power etc. In all cases
make sure you know the difference between a patient that
needs treatment, and a relative that needs treatment.

Of course the relative knows the patient’s normal pre-sickness
state (which is useful), but your clinical judgment reigns
supreme in the interest of the patient. Don’t be sucked into
doing ABGs on a patient just because the relatives are
convinced that s/he is short of breath.

When a relative comes up to you and asks for information on
your patient, politely ask the identity of the patient. It is quite
negligent for a doctor to dish out patient information to non-
close relatives. Sometimes friends would like to know that
state of the patient in order to be prepared before actually
visiting the patient. This would prompt you to know how much
information/which type of information you would be giving to the relatives.
Section C - Paperwork

DISCHARGING PATIENTS
(“Don’t Come Back Now, Y’Hear?”)
If you ever have a moment to reflect, it’s a nice feeling to discharge a patient; looking much better, perhaps more mobile and completely without the terror they had when they were first admitted. Similarly, it’s a crummy feeling when they are re-admitted just soon after, and it’s the worst when the reason they came back had something to do with a communication problem between you and the patient at the time of the last discharge. So be thorough in your communication and paperwork at the time of discharge. You would trying to handle a number of discharges every day but it helps to spend a few minutes with the patient just to make sure that they got everything right…it may save you more time in the future.

DISCHARGE LETTER
Case Summary - Electronic Case Summary (ECS)
Everyone gets one. From every desktop the icon of the electronic case summary is available. It is a very valuable tool and make sure that you have a username and password to use the ECS. Remember that one copy goes to the patient and one copy goes in the file. From the programme you will be able to print out prescription forms thus avoiding the need to write them out. Make sure you get a username and password for your use. You can access your all the discharge letters done with the programme of all patients, thus it becomes useful when searching for previous medications, admissions or operations. The programme in itself is self-explanatory for the computer wizards. For the less computer-friendly, it may need some time to get going however; the IT department (namely Mr. Alan Dimech - ext. no. 5341) is willing to help.
You will get a really proud feeling when casualty officers and even consultants use your discharge letter as a base of reference when seeking out short concise information on a new patient. Keep it short and accurate (if you don’t know, don’t invent), but include all the important details. If it was surgery, what was it, when was it, who carried it out and mention any post operative complications and any blood transfusions. If it was any medical complaint, mention the CXR/ECG findings, whether they were new changes,
abnormal blood test results and any other relevant points (heavy smoker, family history of DVT, mastectomy 9 years prior to admission with Chemotherapy).

The Outpatient’s appointments are handled variously in different wards by the nurses or the ward clerks, but the most important thing is that although you usually don’t have to arrange them, you must make sure that someone is doing them. Get accustomed to the way the ward manages the appointments so that you inform your patients that they will receive a letter in the mail informing them to come for their appointment on the scheduled date.

Apart from the prescriptions it is useful to give the patients a list of medications that the patient IS DISCHARGED HOME WITH, which is sometimes markedly different from what they came with. If your firm has a clinical pharmacist (applies to medical specialities only) this will be done by them when s/he is accompanying the ward round. However, if you are not amongst those fortunate enough you will have to do it. It is important to clarify how many days a patient will be on antibiotics or how a patient’s dose of prednisolone will be tailed down (if there will be a continuing maintenance dose or will they tail down to zero?).

Usually for the patient’s benefit, these lists are written as:

- **Isordil** 10mg 1 - 1 - 1
- **Burinex** 1mg 2 - 2 - 0
- **Enalapril** 5mg 0 - 0 - 1

It is a good idea to discharge all known cases of IHD and chest pains with a new stock of SL GTN, for two reasons: firstly because the patients who then reach casualty have already performed a self-screening test, and then casualty officers can say “episodes of chest pains, unresponsive to GTN”. The second reason for dishing out a new supply of GTN is that it loses its active ingredient very quickly (say over a year), and by giving all those patients a new supply (and telling them to throw the old medicine) you may thus be helping to reduce the number of admissions with “chest pain unresponsive to (inactive) GTN” or “Chest pains increasingly unresponsive to GTN over 3 months”.

**WARFARIN AND ACC**

If your firm has newly started a patient on Warfarin, your patient must now regularly visit the anticoagulant clinic (ACC located at the main foyer if the outpatient’s department at Level 0) to have their blood checked and the Warfarin dose adjusted accordingly. All new cases on anticoagulants must therefore have an ACC form filled out, citing the reason for
starting anticoagulation (new onset Atrial Fibrillation, DVT etc.) and the date started. The ACC will then issue to them a useful little yellow book to help keep track of the INR and Warfarin dose (good for you to look at when asking for the latest Warfarin dose prescribed, and assessing the patients’ response to Warfarin). It is in your responsibility to explain what Warfarin is, and what are the risks involved with taking too little or too much. Warfarin pills come in three doses with corresponding colours;

**Warfarin 1mg - Brown Tablet**
**Warfarin 3mg - Blue Tablet**
**Warfarin 5mg - Pink Tablet**

The patients must understand this concept of dosage and colours - thus they should realize that taking two brown ones is NOT the same as taking 2 pink ones! You should specify that the patient should tell their doctor, dentist, pharmacist, neighbours etc that they are on this drug before starting any other drug in view of the risk of interactions and bleeding in dental extractions.

Patients who were previously on Warfarin can be simply told to go to the ACC to book an appointment prior to discharge especially if their Warfarin dose has been altered during admission.

**PRESCRIPTIONS**

Congrats, you’re a doctor, and so long as you’re operating within the hospital, you can write prescriptions which can be legally filled out. With that arm of power is attached a big fat body of responsibility. It sound extreme, but beware of handing MDH letterheads for someone who needs a paper to write a telephone number on (and really just wants the paper to write a prescription). It has happened before. The electronic case summary programme has the option to print out, legally accepted prescriptions both for the 3 day supply and for the 2 months supply. This will save you time instead of filling out duplicate prescriptions in patients with poly pharmacy that takes ages.

Some common drugs listed as MICROGRAMS (not milligrams) are thyroxine, sublingual GTN, digoxin and one alpha vitamin D. To refresh your memory: daily is od, dly. Twice daily is bd. Three times a day is tds, and four times daily is qds. Sometimes as specified above, it helps to be even more specific, for example: Burinex 2mg - 1mg - 0. (it is kinder to give an afternoon dose of diuretic rather than a night time dose, and wind up investigation the patient later on for ?prostatism!)
Night dose in nocte. Some drugs commonly given nocte are statins, laxative, ACE inhibitors, sleeping pills!

Writing prescriptions for drugs to be bought at a pharmacy is easy. Write the DATE, the PATIENT’S NAME and ID no, the DRUG and DOSE and REGIMEN, SIGN, write your name clearly below the signature and your registration number. If the drug prescribed is required to be taken for a number of days (e.g. antibiotics) specify the amount of days needed.

Some antibiotics and fancy drugs (non-formulary) need to be purchased with those prescriptions. Alternately, your consultant can sign a “Request For Non-Formulary Items” (DTC) for to get them for free, as long as the drug and dose is also written on the schedule V application (but not necessary for a “kartuna roza”). But most of the time you will be writing prescriptions on the white prescription pads which are used for (free) dispensing from the in-patient, outpatient and health centre pharmacies.

The hospital policy is that all discharged patients are entitled to 3 days of free drugs. (The idea is to provide them a break during the convalescence period before they buy new drugs, go to the health centre, or receive their Schedule V permission in the mail). These they can get from the in-patient pharmacy which is situated just at the entrance of outpatients department from the main entrance, provided they show the discharge letter.

**IMPORTANT** - they need to take the discharge letter with them, and the drugs on the white prescription (or the printed prescriptions) must match EXACTLY with what is on the discharge letter. If during admission the patient’s treatment has been changed, the patient can get the 2 months supply from the out-patient pharmacy, provided that a new schedule V application from has been signed by the consultant indicating the new treatment. Thus the old schedule V (kartuna safra) will be cancelled. The pharmacy will take the newly signed schedule V and after processing the patient will receive a new Schedule V card by mail.

Dangerous drugs (sedatives, anxiolytics, and opiates) can’t be put on the white prescription (or printed prescription). Antipsychotics can! Anti-cholesterol medications require a separate form to be filled by the consultant in order for the patient to receive them for free. The form is in triplicate, pink/white/yellow, and you must write somewhere on it the incriminating lipid profile result (total cholesterol and LDL).
DANGEROUS DRUGS
There is a special green prescription for dangerous drugs. This is intended only for people who already have permission to obtain these drugs. As mentioned above the drugs to be prescribed on a green prescription are Benzodiazepines (e.g. Diazepam), Opiates (e.g. MST, Oral Morphine Syrup - Oramorph, Codeine) and as the name implies other dangerous drugs that may lead to addiction. These types of drugs would need a different control card which is the White Control Card. There is a special application for the issuing for a White Control Card which you can issue. The patient needs to go to Valletta with this application in order for the Ministry to issue a control card.

LITTLE BIG RULES
Some final points on discharges; you do not have the power to discharge a patient from hospital (except in exceptional circumstances when everyone in your firm is on leave/sick). Patients who are eager to leave despite the risks involved can sign a ‘Discharge at Request’ form. You need to be there to sign your name and ID and leave a note in the file to explain the event. While you are there, you can take the opportunity to use your superior powers of persuasion to get the patient to stay (even though all the nurses will be happy for the reduced workload!). Once the patient has discharged at request, s/he will not necessarily be admitted under the same consultant the next time round.

WARNING: Patients with drug overdoses, police cases and any patient who is suspected of self harm or potential harm to others MAY NOT discharge themselves against medical advice. Get security, police officer, constant watch, but they may not go until they are discharged from medical point of view and seen by a psychiatrist.

No exceptions - a discharged patient with drug ingestion may next be seen on the front page of the news found dead somewhere.

And finally, all discharged patients must have their cannula removed. It may be a simple thing, but you may be surprise at what people may try to fish the cannula at home with.

KARTUNA SAFRA - SCHEDULE V
The yellow control card enables patients to receive (usually on month’s worth at a time) free drugs due to their chronic
condition. These are listed below. Know these reasons for Schedule V application by heart (nobody knows them all by heart, you’ll be the prodigy house-officer!) because you will be using that info all the time. The application for Schedule V requires your consultant’s signature. The patient/relative/carer can take the form to the Schedule V office (In St. Luke’s Hospital in front of the old Ambulance bay near A&E) and the yellow card will be sent some weeks later with the mail. The patient/relative/carer can also present the signed Schedule V application along with the prescriptions and discharge letter and the outpatient’s pharmacy and the pharmacy will take care of the transfer of the application to the Schedule V office.

Note: with the schedule V, the patients can only receive for free the drugs that you have listed. Any new additions require a new complete application or the consultant adds the new treatment on the yellow card and signs below. The patient then needs to exchange this yellow card at the pharmacy department and a new one will be posted later. The yellow card is renewed every two years.

KARTUNA ROZA - PINK FORM

While having a yellow card is good, having a pink card is even better. It means that patients can receive as much of the drug they need (provided they have a permission for non-formulary items with the consultant’s signature on it; there is a specific form for obtaining non-formulary items). It also means that you do not have to reapply for a new card each time you alter a drug regimen or add something on. It is typical to prescribe 2 months worth of medication at a go. All diabetics qualify for it.

WHO QUALIFIES FOR A SCHEDULE V

COMMON CONDITIONS
- Congestive Heart Failure
- Persistent Hypertension
- Ischaemic Heart Disease
- Chronic Respiratory Failure
- Chronic Asthma
- Chronic Rheumatoid Arthritis
- Chronic Peptic ulcer
- Chronic Renal Failure
- Glaucoma (requires a special form filled by an ophthalmologist)
- Paget’s Disease (alkaline phosphatase >100iu)
LESS COMMON CONDITIONS

- Endometriosis
- Epilepsy / Multiple Sclerosis
- Schizophrenia
- Autoimmune Enteropathy
- Crohn's/Ulcerative Disease
- Myasthenia Gravis
- Motor Neurone Disease
- Huntington’s Chorea
- Wilson’s Disease
- Hepatic Cirrhosis & Ascites (with neurological symptoms)
- Haemophilia
- Incapacitating Parkinson’s Disease
- Nephrotic Syndrome
- Addison’s Disease
- Hypopituitarism/Diabetes Insipidus
- Enzyme Deficiency
- Extensive Psoriasis
- SLE
- Systemic Sclerosis
- Dermatomyositis
- PolyArteritis Nodosa
- Congenital Indifference to Pain
- HIV

COMMONLY USED DRUGS & THEIR DOSES

(Try to know these by heart!)

**OHA’s**
- Glibenclamide (Euglacon) - 5mg (“it-tawwalija”) long acting
- Gliclazide (Diamicron) - 80mg short acting
- Metformin (Glucophage) - 500mg (“it-tonda”)
- Prednisolone (Prednisone) - 5mg (remember that 30mg is 5mg x 6)
- Potassium Supplements (Slow K) (“qisu fazola”)

**WARFARIN**

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<thead>
<tr>
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<tr>
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<tr>
<td>Blue</td>
<td>3mg</td>
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<tr>
<td>Pink</td>
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**DIURETICS**

- Bumetanide (Burinex) - 1mg or 5mg
- Amiloride / Frusemide (Frumil)
- Frusemide (Lasix) - 20mg
Spironolactone (Aldactone) - 25mg or 100mg
Isosorbide Dinitrate (Isordil) - 10mg
Isosorbide Mononitrate (Imdur) - 60mg
Amlodipine (Amlo, Istin) - 5mg
Atenolol (Tenormin) - 50mg or 100mg
Enalapril - 5mg
Lisinopril (Zestril) - 2.5mg or 5mg or 10mg
Captopril - 25mg
Ranitidine (Zantac) - 150mg
Omeprazole (Losec) - 20mg

STATINS
Simvastatin (Zocor) - 10mg or 20mg or 40mg
Fluvastatin (Lescol) - 20mg

ANTI-EPILEPTICS
Sodium Valproate (Epilim)
Phenytoin (Epanutin)
Carbamazepine (Tegretol)

SSRI’S
Fluoxamin (Faverin)
Paroxetin (Seroxat, Paxetin)
Citalopram (Cipramil)
Fluvoxamine (Prozac)
Primodine (Mysoline)
Lithium (Priadel)
Haloperidol (Serenace) - 1.5-5mg or 5-10mg IM STAT for sedation
Mater Dei Hospital

FINDING YOUR WAY AROUND

Blokk D2
Ahdar: Surgical Wards 3 & 4, Gynaecology, Delivery Suites, ENT, Obstetrics’ Wards 1 & 2, Operating Theatres, Fairyland, Orthopaedic Ward 5.

Blokk D1
Blu: Ophthalmic, Urology 1 & 2, Sleep Lab, Paediatric Day Care Unit, Neo-natal/Paediatric Intensive Care Unit, Day Care Surgery Unit, Surgical Ward 5, Obstetrics Ward 3, Delivery Suites, Disneyland, Wonderland, Rainbow Unit.

Blokk D3
Istar: Plastic Surgery & Burns Unit, Surgical Wards 1 & 2, Orthopaedic Wards 1 & 2, Neuromuscular Unit, Neonatal Medical Unit, Catheterisation Suite, Medica Ward 6.

Blokk D4
Kanella: Medical Wards 1, 2, 3, 4 & 5, Cardiac Medical, Cardiac Surgery, Cardiac Intensive Care Unit, Critical Cardiac Care Unit, ITU, HDU, Medical Investigations, Infectious Diseases, Psychiatric Unit.

Blokk D5
Ahmar: Dipartiment t’s 1-Emergenza, Observation and Admission Wards, Hyperbaric Unit.
# IMPORTANT TELEPHONE NUMBERS

More numbers available on the KURA system!

## ACCIDENT AND EMERGENCY

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## WARDS

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</tbody>
</table>
Operating Theatres (1-7)  4700 / 4701
Operating Theatres (8-14)  7296 / 7297
Ophthalmic Ward  5020 / 5021
Orthopaedic Ward 1  5230 / 5237
Orthopaedic Ward 2  5220 / 5227
Orthopaedic Ward 3  5210 / 5217
Paediatric Day Care (PDCU)  4940 / 4941
Paediatric - Disneyland  4920 / 4921
Paediatric - Fairyland  4930 / 4931
Paediatric - NPICU  5450 / 5451
Paediatric - Rainbow  4910
Paediatric - Wonderland  4916
Plastics and Burns Ward  7070 / 7077
Psychiatric Unit (PU)  6920 / 6921
Renal Unit (CAPD)  6096
Renal Unit (Haemodialysis + Main Desk)  6080 / 6081
Surgical Ward 1 (S1)  7010 / 7011
Surgical Ward 2 (S2)  7020 / 7021
Surgical Ward 3 (S3)  7030 / 7031
Surgical Ward 4 (S4)  7040 / 7041
Surgical Ward 5 (S5)  7050 / 7051
Urology Ward 1 (URO1)  7080 / 7081
Urology Ward 2 (URO2)  7090 / 7091

LABORATORIES
Blood Bank (URGENT CALLS)  6330 / 6331
Cardiac Catheterisation Suite  4670 / 4680/4664
Medical Imaging - Appointments Offices  6707 / 6709
Medical Imaging - CT Room  6703
Medical Imaging - Radiologists Office  6706 / 6747
Medical Imaging - Reception  6700 / 6701/6770
Medical Imaging - Ultrasound Rooms  6762 / 6763/6764
Pathology - Reception  6300 / 6301
Pathology - Bacteriology / Virology Reception  6420
Pathology - Biochemistry  6382
Pathology - Coagulation  6345
Pathology - Haematology  6350

OUT PATIENTS
Cardiac Lab  4630 / 4631

55
ENT Out Patients 4580 / 4581
Gynaecology Out Patients (GOP) 4440 / 4441
Medical Out Patients 1 (MOP1) 7450 / 7451
Medical Out Patients 2 (Diabetes Clinic) (MOP2) 4450 / 4451
Medical Out Patients 3 (MOP3) 7430 / 7431
Medical Out Patients 4 (MOP4) 4470
Pacemaker Clinic 4497
Phlebotomy (ACC Clinic) 4550 / 4551 / 4553
Psychiatric Out Patients (POP) 6930
Ophthalmic Out Patients 4480 / 4481
Orthopaedic Out Patients (OOP) 4500
Surgical Out Patients (SOP) 4560 / 4561

OTHER IMPORTANT NUMBERS
Anaesthesia Department Secretary 7251
ECG Department 4645 / 4662
Foundation Programme Office 6883
Infection Control 4540
Medical Administration 4140 / 4141 / 4142
Medicines Information (Pharmacy) 6504 / 6514
Physiotherapy Departments 6600
Schedule 5 - Yellow Card Office 1402
Social Worker Office 5570
Urgent Hospital Reception (DOCTORS LINE) 2545

PAGING
CPR ** 444 3567485 # [enter number] # #
ECG ** 444 3587788 # [enter number] # #

Telephone numbers correct as of 22nd May 2009 - from MDH Telephone Directory

HOW TO “PAGE”
Things to know BEFORE you “page”:
1. Why you are paging this other person!
2. Which number he/she can contact you on!
3. The other person’s Pager Number.

Step 1: Press ** 4 4 4 and wait for the voice prompt
Step 2: Enter other person’s pager number (e.g. 3560000)
Step 3: Press #
Step 4: Enter number you wish to be contacted on (and also possibly the last four numbers of your own pager number if you think the other person may be able to identify you - this is normally done between house officers during night duties!)

Step 5: Press # twice
Step 6: Hang Up
Step 7: WAIT for the other person to reply

Useful notes: