CCU ISSUES

Patients of all ages may be admitted to the Coronary Care Unit with suspected or proven acute myocardial infarction, unstable angina or serious conduction defects/cardiac arrhythmias, if regarded as suitable for intensive medical management.

Patients may be admitted directly via paramedic crews, the Emergency Department or other wards. The designated CCU medical team should see patients without delay.

Suspected myocardial infarction patients contacting the 999 service in Leicester will be seen by the paramedic service who will record a 12 lead ECG at the patient's location. If the ECG reveals acute infarction or ischaemia the paramedic crew will arrange direct admission to CCU. In the case of ST-elevation myocardial infarction (STEMI), a pre-alert will be broadcast to the CCU team and catheter labs.

Eligible patients for admission to the CCU may include but not be limited to:

- Patients with STEMI
- Patients with moderate or high-risk acute coronary syndromes (dynamic ECG changes, haemodynamic instability or significantly elevated Troponin I)
- Patients after cardiac arrest (will need HDU/ITU if requiring respiratory support)
- Cardiogenic shock or severe heart failure requiring inotropic support
- Complex cardiac arrhythmias (especially those associated with major symptoms and/or haemodynamic compromise)
- Patients requiring temporary pacing
- Patients receiving medication and/or treatments requiring continuous cardiac monitoring including inotropic and ***antiarrhythmic*** agents
- Patients with aortic dissection
- Patients with hypertensive emergencies
- Patients with cardiac tamponade
- Patients following complex procedures (TAVI, complex ablation, complicated PCI)

Acute myocardial infarction or unstable angina should be considered in all patients with chest pain admitted to the various admissions units. The ECG should be repeated and reviewed several times within one hour of admission and as appropriate thereafter. If patients develop signs of ischaemia or infarction on the ECG they should be transferred to the CCU. Patients identified as having a STEMI should, after confirmation with CCU, have a 'STEMI alert' put out via switchboard to alert relevant personnel.

Consultant responsibility on CCU is arranged on a rotational scheme. SpR cover is readily available. Patients should be seen first thing each morning and reassessed later in the day. It is appropriate for most patients to be discharged to the wards within 24 to 48 hours. In the case of bed shortages, the SpR or consultant should prioritise discharges. A decision should also be made as to the appropriate

destination of the patient following discharge from CCU. Any patient inappropriately placed on CCU should be transferred out as quickly as possible.

It is important that a CCU bed is always free to take an admission without delay. In the case of bed shortages the unit should liaise with both medical staff and bed managers in order to maintain CCU bed availability. Forward planning is important as only in exceptional circumstances should patients be transferred after 22:00hrs.

It is the responsibility of the CCU team to clerk all admissions. If there is ever uncertainty, ASK FOR HELP. The covering SpR should always be advised of new admissions immediately. Investigations should be performed as listed later. Clerking should be done employing the yellow CCU proforma even if patients have already been clerked elsewhere. **All patients require a DVT assessment** to be made. Please ensure this has been done.

The yellow clerking sheets should be filled in even when patients are transferred from other wards as the design allows quicker assessment of pertinent issues such as risk factor profile and previous cardiac events. The yellow sheets are multidisciplinary and so nursing and medical staff document relevant issues in them for improved communication.

Ward rounds take place first thing each morning and generally again later in the day. It is essential that a full hand-over is performed every day to the next doctor on duty for the unit. Discharging patients should generally be on the advice of the SpR or consultant. The receiving team should be informed as soon as possible. Electronic discharge summaries (EDS) must be done for all patients being discharged home and also when being transferred to other units (both internal and external). If external ensure copies of the letters go to the referring hospital.

It should be remembered that not all patients in CCU end up having a primary cardiac diagnosis. The differential diagnosis of the patient with chest pain includes:

- Pulmonary embolism
- Pneumonia
- COPD
- Cholecystitis/biliary colic
- Renal colic
- Pancreatitis
- Peptic ulcer disease
- Oesophagitis
- Pneumothorax
- Musculoskeletal pain
- Aortic aneurysm
- Aortic dissection

In addition, there are CARDIAC AND NON-CARDIAC conditions which may present with ST changes and raised ***Troponin I*** levels (see page 55).

Finally in patients with STEMI who have undergone PCI, low-risk patients with successful primary PCI and complete revascularization can safely be discharged from hospital on day 2 or day 3 after PCI. Low risk includes age < 70 years, LVEF > 45%, one or two vessel disease and no arrhythmia issues.

JUNIORS ISSUES

It is the responsibility of the ward based doctors to ensure all patients are seen on at least a daily basis. Senior review should be sought on all new admissions within hours of admission and certainly on the same day. A management plan should be made as soon as possible. Do not leave messages with secretaries or email to get a review, speak to the SpR or consultant directly. Financial penalties are incurred if patients' length of stay is prolonged and so it is in everyone's interests (not least the patient) to ensure discharge as soon as safe to do so. If patients are only staying in waiting for investigations that are not going to directly impact on their inpatient management, they should be considered for discharge for the test to be done as an outpatient.

For patients admitted overnight from other centres it is mandatory for them to be clerked and a prescription entered on Nervecentre.

All patients require a DVT assessment to be made. Please ensure this has been done. ReSPECT forms need to completed as appropriate.

A recurring theme across the unit is a delay in discharge summaries being written and is a regular cause for complaints and patient and family dissatisfaction. TTOs should be done as soon as possible and when requested to do so. Making drafts in advance saves time. **Please ensure summaries are copied to referring hospitals in the case of patients transferred in from other units**. Ensure duration of medication is documented (e.g. 12 months ***clopidogrel*** or ***ticagrelor*** or ***prasugrel*** after PPCI). Note that pharmacy closes at 6pm and so TTOs should be done as early as possible to facilitate discharge. Accuracy is clearly mandatory in discharge letters and these are audited on a regular basis. Death summaries should be written for patients who die so the GP has some understanding of the admission and final outcome.

Attention should be given to day-case patients where prompt discharge is crucial to allow day case lists to run smoothly. If morning patients are not discharged promptly it delays the afternoon lists. There are occasions when planned day case patients have to stay overnight. Please check and ensure a prescription is entered on Nervecentre. Make it your business to know when your consultant has day case procedures happening and ensure you get involved in their care. Adult congenital patients may be admitted into your ward base. These are your responsibility under the supervision of the adult congenital cardiologist.

Care should be taken to ensure drug histories are accurate and Nervecentre completed to the standard expected. These are also audited on a regular basis. A common failing is not documenting the reason for the prescription. Antibiotic prescriptions are frequently below the standard required so please ensure familiarity with what is expected by accessing the antimicrobial website on Insite (http://insite.xuhl-tr.nhs.uk/antibiotic/).

ACS (suspected and confirmed) patients transferred from the acute cardiac assessment unit often have only one or two ECGs done. Ensure these are repeated as appropriate. Some will not have had lipids or glucose checked – ensure they are done. In patients who require procedures, consent must be obtained before listing them on ICE. Consent is the responsibility of the SpR or consultant. For patients undergoing PCI a 'group and save' should be considered only for selected patients.

Patients who are referred for surgery should be discussed at a senior level. Referrals are done by ICE referral. This should not replace discussion at SpR or consultant level with the cardiac surgeons. Consider whether additional investigations or treatment are needed prior to referral such as carotid Dopplers in those with bruits or a prior history of stroke, and dental assessments in those who require valve surgery (if they have teeth). Patients will need cross matching prior to surgery. ***Antiplatelets*** (especially ***prasugrel***) may need stopping - so check.