MACSTRAK
CCU

PROCEDURE MANUAL

June 2008

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Introduction

This section provides instructions for completing the Macstrak CCU form. The CCU form can be used to gather information on cardiac activity specific to your CCU/ICU and has been designed to integrate with the Macstrak ER and Ward forms. Note that the entire form is one page and all applicable sections should be completed.

The CCU form should be initiated for all cardiac patients admitted to the CCU/ICU, updated each shift and completed on the patient's discharge from the CCU/ICU.

Your Role

As the **Primary Caregiver** is to:

* Ensure reliable, consistent data collection. Responsibility for the completion of individual sections of the form may vary from centre to centre but you must clearly define within your centre who will complete each section. If a patient stays longer then five days, an additional form will be needed.

* Complete the following sections on patient's admission: **Demographics, Presentation Profile**, and **Initial Management (For All ACS Patients)** and sign your initials in the **Completed by** section.

* Each shift, complete the checklist for **Course in CCU** and sign off in the box provided for your initials.

* At CCU/ICU discharge complete the section **CCU Discharge** and sign your initials in the **Completed by** section.

As the **Macstrak Co-ordinator** is to:

* In-service and update the primary caregivers.

* Collect all the completed Macstrak CCU forms every Monday,
complete the Communication Form and forward everything to the Project Office.

* Briefly review forms for accuracy prior to sending them to the Project Office.

* Receive and distribute reports.

General Guidelines

Macstrak CCU documents information on patient care provided by your hospital (for example, medical treatment, additional procedures, and length of stay.) Information on the form should describe the activity at your hospital. There is, however, some information recorded in the timeline to track critical time intervals for EMS and the transfer of patients to and from other hospitals as well as in the reperfusion therapy section that may pertain to other hospitals. It is suggested to include as much information as there is available.

The Project Office uses a system called optic scanning for data entry. Due to the sensitivity of the scanning process these guidelines should be followed:

* Ensure that an ☒ or ☑ does not extend into any adjacent boxes.
* All errors should be erased clearly or removed using white out.
* Please avoid putting any extraneous marks on the form as they may interfere with the scanning process.
* Print all information legibly and within the boundaries of the box provided.
* All four corners must be kept free of any marks as they are used by the scanner to orient itself.
* Paper clips are preferred but staples may be used if stapled over the logo rather than the corner or frame of the page.

Completing Macstrak Communication Forms

Completed original Macstrak CCU forms are submitted weekly to the Project Office (in those centres that are <300 beds, submitting every two weeks is also acceptable). A Communication Form (see below) should be completed and mailed in with each submission of CCU forms.

MACSTRAK
COMMUNICATION FORM

CENTRE #:______________

☐ **ER** ☐ **CCU** ☐ **Ward**

Log Book Count:

from Monday 0001 hours ____/____/____ (D M Y)

to Sunday 2400 hours ____/____/____ (D M Y)

# of admissions: ______

Macstrak Forms:

# of forms ______ date sent:____/____/____ (D M Y)

Comments:

SENT BY:____

6E243, 200 Elizabeth St. macstrak@uhnres.utorotno.ca Phone/Fax
Toronto, ON 1-800-661-6123
M5G 2C4 1-800-661-6107

Complete the form as follows:

1. **Centre:** Ensure that your centre number is written on the form.

2. **Unit**: Indicate that your forms are from the CCU by checking the appropriate box.

3. **Log Book Count:** Indicate the week the forms represent by completing the dates:

from Monday 00:01________________
to Sunday 24:00________________

# of admissions — Indicate the number of Macstrak CCU/ICU patients admitted during that time period by counting them in your logbook.

Communication Forms *(cont.)*

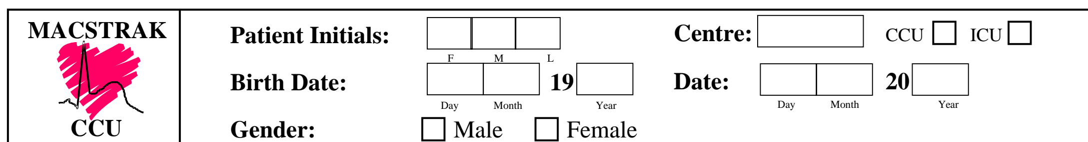
4. **Macstrak Forms**: Indicate the number of case report forms you are mailing to the Macstrak Project Office.

5. **Comments**: Use this area to indicate if you are low on supplies, or have suggestions or ideas that you would like to share with the Macstrak Project Office.

6. **Sent By**: Print your name here. If there are any questions about a particular submission of forms the Project Office can contact your centre.

Demographics

This section provides basic demographic information while maintaining patient confidentiality. The patient's name and medical record number are not recorded on the form. The initials and date of birth are helpful for your internal tracking of the patient's record should you need to refer to it at a later date. This section also provides the date of admission, age, and gender.


MACSTRAK CCU | Patient Initials: F M L | Centre: | CCU ICU
Birth Date: Day Month 19 Year | Date: Day Month 20 Year
Gender: Male Female

Follow these steps to complete the **Demographic** section of the Macstrak CCU form.

Field	Action
Patient Initials	Print the first, middle, and last initials of the patient's name. If there is no middle initial, leave the middle box blank *(e.g. JMW or J W)*.
Birth Date	Print the day/month/year of the patient's birth in the space provided *(e.g. 01 01 32)*.
Gender	Indicate patient as male or female.
Centre	Enter the three-digit code number that designates your institution in the space provided. The code number is assigned by the Macstrak Project Office upon enrolment.
CCU/ICU	The boxes labelled CCU and ICU would be used only in those centres tracking their cardiac patients in both units. This allows the project office to provide a report specific to each unit. Mark the box that reflects which unit your patient is in.
Date	Print the day/month/year of the patient's admission to the CCU.

Presentation Profile

This section provides important risk stratifying information regarding the patient's past medical history as well as information regarding **Admitting Diagnosis**. The presenting problem is separated into ACS (acute coronary syndrome) and Non ACS categories.

Presentation Profile: Completed by: ☐

Past Medical History: **<30 days** **>30 days**

- MI ☐ ☐
- Angina ☐ ☐
- CABG ☐ ☐
- PCI ☐ ☐
- CHF ☐ ☐
- TIA/CVA ☐ ☐
- Diabetes (oral agents/insulin) ☐ ☐
- None of the Above ☐

Patient Origin:

- ☐ ER ☐ EMS ☐ Walk In
- ☐ Dr.'s Office/Clinic (Direct)
- ☐ Other Hospital
- ☐ Inpatient → ☐ Medical Ward ☐ Surgical Ward ☐ Other ICU ☐ Other: ....

Admitting Diagnosis: (Check one only)

ACS:
- ☐ Acute MI (48 hrs)
- ☐ UA R/O MI
- ☐ UA
- ☐ RSCP NYD

Non ACS:
- ☐ CHF
- ☐ Arrhythmia
- ☐ Aortic Dissection
- ☐ Pericardial Disease
- ☐ Other: ....

VS at Presentation: (complete for all patients)

- **Dyspnea/Rales:** → ☐ None ☐ Mild ☐ Mod/Severe
- **Systolic BP:** → ☐ < 100 ☐ 101-130 ☐ 131-160 ☐ 161-190 ☐ >190
- **Heart Rate:** → ☐ < 80 ☐ 80-100 ☐ >100

Diagnostic ECG: (ACS pts. only)

- ☐ No ACS ST-T
- ☐ LBBB
- ☐ Paced
- ☐ Other →

	ST↑	ST↓	T↓	Q
V_{1-4}	☐	☐	☐	☐
V_{5-6}	☐	☐	☐	☐
IaVL	☐	☐	☐	☐
II/IIIaVF	☐	☐	☐	☐
V_4R ..done ☐	☐			
V_{7-9}...done ☐	☐			

Timeline: (AMI pts only - 24 hr clock or > 24 hrs)

- **Symptom Onset:** ☐
- **EMS at Scene** ☐
- **First Hosp. Arrival:** ☐
- **First ECG:** ☐
- **Diagnostic ECG:** ☐

Follow these steps to complete the **Presentation Profile** section of the Macstrak CCU form.

Field	Action
Past Medical History	Mark the boxes that best describe the patient's past medical history. This section does not include the events of the current presentation. Mark both time periods if both apply [*e.g. if a patient had a PCI 2 weeks ago (<30 days) and also had a PCI one year ago (>30 days)*]. If the events listed do not apply mark the box for **None of the Above**.

Presentation Profile *(cont.)*

<table>
<tr><th>Field</th><th>Action</th></tr>
<tr><td>Past Medical History
(cont.)</td><td>MI: Myocardial infarction

Angina:
History of chest pain or equivalent <u>attributed</u> to coronary artery disease.

CABG: Coronary artery bypass grafting

PCI: Percutaneous coronary intervention

CHF: Congestive heart failure
History of a diagnosis of congestive heart failure or pulmonary edema.

TIA/CVA: Transient ischemic attack/cerebral vascular accident (Stroke)
Cerebral ischemia of brief duration - no sequalae

Diabetes(oral agents/insulin):
Mark if patient is diabetic and being treated with either oral hypoglycemics or insulin. Do not mark if patient's diabetes is being controlled by diet alone.</td></tr>
<tr><td>Patient Origin</td><td>Mark the box that represents the origin of the patient (e.g. if the patient was admitted to CCU from ER, mark the box for ER. If the patient was already an in-patient before coming to CCU, indicate which area/ward they came from). If Other is chosen, provide a description. If ER is chosen, please indicate if the patient arrived via EMS or if they arrived via their own transportation (Walk In).</td></tr>
</table>

Presentation Profile *(cont.)*

Field	Action
Admitting Diagnosis	Choose the Admitting Diagnosis that best represents the problem that brought the patient to the CCU. Check only one diagnosis from the list. **Acute MI:** *Acute myocardial infarction* Chest pain >30 min believed to be secondary to AMI with ECG changes or enzyme changes diagnostic of acute myocardial infarction. Acute MI has *(48hrs)* next to it. The diagnosis of Acute MI is for the patient that has AMI as the reason for admission to CCU. This is usually limited to the first 48hrs. **UA R/O MI:** *Unstable angina rule out myocardial infarction* Chest pain >30 min believed to be ischemic in origin but the diagnosis of acute infarction is uncertain. **UA:** *Unstable angina* Chest pain <30 min believed secondary to unstable angina. **RSCP NYD:** *Retrosternal chest pain not yet diagnosed* Retrosternal chest pain of uncertain etiology. **CHF:** *Congestive heart failure* Diagnosis of congestive heart failure or pulmonary edema. **Arrhythmia:** Mark if patient is admitted with any arrhythmia including: supraventricular tachycardia, atrial fibrillation/flutter, heart block or VT/VF. Does not include sinus tachycardia. **Aortic Dissection:** Mark if patient is admitted with an aortic dissection. **Pericardial Disease:** Mark if patient is admitted with any pericardial disease including pericarditis or pericardial effusion. **Other:** Mark if patient's cardiac diagnosis is not listed. There is a line provided beside **Other** so centres may provide a short explanation as to the patient's admitting diagnosis.

Presentation Profile *(cont.)*

Field	Action
VS at Presentation *(Complete for all patients)*	Record the vital signs of each patient by marking the appropriate boxes for each of the three categories: **Dyspnea/Rales:** Mark the box which best reflects the first assessment in the ER/CCU. **None:** No dyspnea at rest, lung fields clear. **Mild:** Some dyspnea at rest or rales at bases. **Mod/Severe:** Moderate or severe dyspnea at rest or rales > ½ way up chest, or patient is intubated. **Syst. BP:** *Systolic blood pressure* Mark the box which best reflects the first BP done in ER/CCU. **HR:** *Heart rate* Mark the box which best reflects the first assessment of heart rate in the ER/CCU.

Presentation Profile – Diagnostic ECG

Diagnostic ECG: (ACS pts. only)

☐ No ACS ST-T
☐ LBBB
☐ Paced
☐ Other

	ST↑	ST↓	T↓	Q
V_{1-4}	☐	☐	☐	☐
V_{5-6}	☐	☐	☐	☐
IaVL	☐	☐	☐	☐
II/IIIaVF	☐	☐	☐	☐
V_4R ..done ☐	☐			
V_{7-9}...done ☐	☐			

Follow these steps to complete the **Presentation Profile - Diagnostic ECG** section of the Macstrak CCU form.

Field	Action
Diagnostic ECG ***(ACS Patients Only)***	The Diagnostic ECG section should be completed for all patients with an admitting diagnosis of an ACS, including those admitted from other hospitals. There are two parts to the Diagnostic ECG section. The first offers a choice of **No ACS ST-T**, **LBBB**, **Paced** and **Other**. The second section is comprised of specific ECG morphology to describe the Other. **No ACS ST-T** should be marked if patient presents with a normal ECG or shows an arrhythmia but does not show any ST-T changes pertinent to an ACS. The Diagnostic ECG is usually the first ECG on arrival to the hospital but with some patients it is a repeat ECG early after arrival that is different from the first ECG and provides the diagnostic information and leads to a course of management. All ECGs designated as **Other** need a completed morphology section. For each section of leads, mark the boxes that best describe the morphology of these leads. ST segments may be elevated, depressed, or neither. ST elevation is defined as ≥2 mm in V_1-V_4 or ≥1mm in all other leads, including V_4R. If T waves are inverted this box should be marked, or if Q waves are present (≥ .04 msec, or 1 box wide) this box should be marked. **V_4R:** Mark if a right-sided ECG is done during the diagnostic process. Lead V_4R has been shown to be a good marker for RV infarction and has a significant influence on management, and outcome. It is

Presentation Profile – Diagnostic ECG *(cont.)*

Field	Action
Diagnostic ECG *(cont.)*	recommended that V_4R be recorded in all patients with ST elevation in II/III/aVF. If V_4R is done mark the appropriate box and assess for ST elevation. **$V_{7\text{-}9}$:** Mark if a 15 lead ECG is done during the diagnostic process. V_7-V_9 may improve the sensitivity for detecting posterior ST elevation. It is recommended that V_7-V_9 be recorded if the diagnosis of an acute coronary occlusion remains unclear after a 12 lead ECG. If V_7-V_9 is done mark the appropriate box and assess for ST elevation. If you are unsure which boxes apply you may choose to ask a colleague or the attending physician.

Example:

J S was transferred from the ER. In the ER his first and diagnostic ECG showed ST elevation in the inferior leads with ST depression in the anterior leads. A right-sided ECG was done and ST elevation in V_4R was noted.

Diagnostic ECG: (ACS pts. only)

☐ No ACS ST-T
☐ LBBB
☐ Paced
☑ Other →

Lead		ST↑	ST↓	T↓	Q
$V_{1\text{-}4}$		☐	☑	☐	☐
$V_{5\text{-}6}$		☐	☐	☐	☐
IaVL		☐	☐	☐	☐
II/IIIaVF		☑	☐	☐	☐
V_4R ..done	☑	☑			
$V_{7\text{-}9}$...done	☐	☐			

Presentation Profile – Timeline

Timeline: (AMI pts only - 24 hr clock or > 24 hrs)

Symptom Onset: [ ]
EMS at Scene: [ ]
First Hosp. Arrival: [ ]
First ECG: ☐ EMS [ ]
Diagnostic ECG: [ ]

Follow these steps to complete the **Presentation Profile - Timeline** section of the Macstrak CCU form.

Field	Action
Timeline	All times should be recorded in the 24-hour clock format (*e.g. 17:35)*. Note the time for AMI patients only for each of the following occurrences: **Symptom Onset:** Record the time the patient developed this episode of ischemic symptoms which prompted him/her to seek medical treatment. Symptom Onset should be expressed numerically, not as AM, PM, yesterday, last night, 2 weeks ago, etc. If Symptom Onset is greater than 24 hours before Hospital Arrival write **>24** in the space provided. **EMS at Scene:** If the patient arrived at the hospital via Emergency Medical Services (EMS) please record the time at which the EMS arrived at the patient. **First Hosp. Arrival:** The time the patient arrived at the hospital. If the patient was already in the hospital during the Symptom Onset, use the Symptom Onset time for First Hospital Arrival as well. **First ECG:** The time that the first ECG was completed. If the ECG was done by EMS in the field or en-route to the hospital, please mark the **EMS** box. **Diagnostic ECG:** This is usually the first ECG done but with some patients it is a repeat ECG shortly after arrival that provides the diagnostic information and leads to a course of management. If the first ECG is the diagnostic ECG then record the same time in both spaces. If the first ECG is not the diagnostic ECG, record the time of the diagnostic ECG in the space provided.

Presentation Profile – Timeline (cont.)

Example:
SD has chest pain onset at 14:30 while at home. He calls EMS and the paramedics arrive at 16:25. He arrives at the hospital (ER) at 16:45. His first ECG is at 16:52 and is non-specific. A second and diagnostic ECG is at 18:40 shows marked ST elevation in V_1-V_4. SD is admitted to CCU with Acute MI.

Timeline: (AMI pts only - 24 hr clock or > 24 hrs)

Symptom Onset:	**14:30**
EMS at Scene	**16:25**
First Hosp. Arrival:	**16:45**
First ECG: ☐ **EMS**	**16:52**
Diagnostic ECG:	**18:40**

Example:
DTF was admitted to the medical ward 2 days ago. Today he has chest pain onset at 10:00. His first and diagnostic ECG is done at 10:10 while still on the medical ward. He is then transferred to CCU with a diagnosis of Acute MI for further management. The ***Hospital Arrival*** *time for this episode of pain is the same as* ***Symptom Onset****.*

Timeline: (AMI pts only - 24 hr clock or > 24 hrs)

Symptom Onset:	**10:00**
EMS at Scene	
First Hosp. Arrival:	**10:00**
First ECG: ☐ **EMS**	**10:10**
Diagnostic ECG:	**10:10**

Example:
ACD has chest pain onset at midnight (00:00) while watching TV in bed. He calls 911. The paramedics arrive at 00:12. At the scene, the paramedics perform an ECG at 00:25. The ambulance arrives at the hospital at 00:45. He is seen immediately in the ER and is treated based on the ECG done in the field. He is admitted to the CCU with a diagnosis of Acute MI.

Timeline: (AMI pts only - 24 hr clock or > 24 hrs)

Symptom Onset:	**00:00**
EMS at Scene:	**00:12**
First Hosp. Arrival:	**00:45**
First ECG: ☑ **EMS**	**00:25**
Diagnostic ECG:	**00:25**

ACS Initial Management

This section supplies important information on the initial management of those patients admitted with an acute coronary syndrome and includes the Timeline and Reperfusion Therapy. Time-to-treatment data is derived from this section of the form.

ACS Initial Management: *(All ACS pts.)* Completed by: ☐

Reperfusion Therapy:
☐ **No→** ☐ **Not Indicated:→** ☐ ECG Not Diag. ☐ ST Up Transient ☐ Too Late ☐ Given (Other Hosp)
☐ **Risk:** → ☐ Risk of ICB ☐ Risk Other Bleed ☐ Other: ....
☐ **Yes→** ☐ **Thrombolysis →** ☐ Here ☐ EMS ☐ Other Hosp/Clinic
Drug: ☐ TNK/rtPA ☐ SK ☐ r-PA (reteplase) ☐ Other
Dose: (mg/units) ☐ **Duration:** (min) ☐ **Pt.Weight:** (kg) ☐
Decision to Treat: ☐ **TLysis Started:** ☐
Adjuvant: ☐ ASA ☐ Heparin ☐ GP2b/3a Inhibitor ☐ β blocker IV ☐ Clopidogrel ☐ Other ....
GP2b/3a Started: ☐
and/or ☐ **Primary/Rescue PCI →** ☐ Here ☐ Transfer
First Hosp. Depart: ☐
Reperfusion Therapy Decided by: ☐ EP ☐ Consultant
Arrive Lab: ☐
First Inflation: ☐
Optional Groups: ☐ Grp1: .... ☐ Grp2: ....

Follow these steps to complete the **ACS Initial Management** section of the Macstrak CCU form.

Field	Action
Reperfusion Therapy	The ACS Initial Management section should be completed on all patients with ACS, including those transferred from other hospitals. **No:** Should be marked if the patient did not receive a reperfusion therapy at your hospital as part of his/her initial management. **Not Indicated:** Should be marked if reperfusion therapy is not indicated. Also provide the reason: **ECG Not Diagnostic**, **ST** elevation **UP** was **Transient**, it was **Too Late** or reperfusion therapy was **Given** at **Other Hospital** prior to arriving at your hospital. All four may be chosen if applicable. Too Late is defined by policies at individual centres. **Risk:** Mark the box which contributed to the decision not to treat with a thrombolytic: **Risk of ICB** (intracranial bleed) or **Risk of Other Bleed**. If some other issue contributed to the decision not to treat, mark **Other** and give an explanation on the line provided.

ACS Initial Management *(cont.)*

Field	Action
Reperfusion Therapy *(cont.)*	**Yes:** Should be marked if the patient receives either thrombolysis and/or a Primary or Rescue PCI (percutaneous coronary intervention) as part of his/her initial management. **Thrombolysis:** Mark this box if the initial management consisted of the use of thrombolytic therapy. **Drug:** Mark the type of thrombolytic therapy given to the patient, either **TNK**(tenecteplase)**/rtPA** (alteplase), **SK** (streptokinase), **r-PA** (reteplase) or **Other**. If the patient is participating in a thrombolytic research protocol in which treatment decisions are protocol-driven or blinded, mark **Other.** **Dose:** Indicate the total (including the bolus) amount of thrombolytic drug given. Doses of SK are expressed in units x 10^6 *(e.g. 750,000 units = .75 or 1,500,000 units = 1.5)*. Doses of TNK and rtPA are expressed in mg *(e.g. 35 mg (TNK) or 100 mg (rtPA))* as are doses of r-PA *(e.g. 10mg + 10mg = 20mg)* If a research drug is used and **Other** is marked, enter the **Dose** if known. **Duration:** Indicate the duration for the entire dose. This time is expressed in minutes *(e.g. 60 min. or 90 min.)*. The typical duration for TNK is less than 1 minute. Please indicate this as 1 minute on the form. **Pt. Weight:** Indicate the weight of the patient expressed in kilograms. When not known exactly, an approximate weight is acceptable. **Adjuvant:** Mark any of the therapies used during initial management: **ASA**, **Heparin**, **GP 2b/3a Inhibitor**, **B blocker IV, Clopidogrel** or **Other**. If the patient is participating in a research protocol in which an adjuvant agent such as ASA, Heparin, GP 2b/3a Inhibitor is given, mark **Other** and write **Research**.

ACS Initial Management *(cont.)*

Field	Action
Reperfusion Therapy *(cont.)*	**Primary/Rescue PCI:** Mark this box if Primary or Rescue PCI is chosen as part of the initial management for the patient. Primary PCI is angioplasty as the primary method of reperfusion (persistent occlusion with no thrombolytic) and Rescue PCI is after any thrombolytic, including ½ dose facilitated angioplasty. Please indicate if the PCI was done at your hospital or if the patient was transferred to another facility. **Reperfusion Therapy Decided by:** Refers to the physician who makes the decision to treat. There are two choices: **EP** (Emergency Physician) and **Consultant**. Consultant includes anyone other than the EP.
Optional Groups	For more information about customizing the CCU form, please refer to the Optional Groups/Optional Fields section in this manual.

ACS Initial Management– Timeline

Decision to Treat: [ ]
TLysis Started: [ ]
GP 2b/3a Started: [ ]
First Hosp Depart: [ ]
Arrive Lab: [ ]
First Inflation: [ ]

Follow these steps to complete the **ACS Initial Management – Timeline** section of the Macstrak CCU form.

Field	Action
Timeline	All times should be recorded in the 24-hour clock format (*e.g. 17:35*).
Decision to Treat	The time the physician ordered the thrombolytic using the 24-hour clock format. The abbreviation UNK may be used if the time ordered is truly unknown.
Tlysis Started	Record the time the thrombolytic is started using the 24-hour clock format.
GP 2b/3a Started	If a glycoprotein 2b/3a inhibitor is administered, mark the time started using the 24-hour clock format.
First Hosp. Depart	If a patient is being transferred to another hospital for a PCI, please indicate the time the patient departed your hospital. If the patient is being transferred to you hospital, indicate the time the patient left the other hospital.
Arrive Lab	If a PCI is performed please indicate the time the patient arrived in the Cath Lab. If your patient was transferred to a PCI hospital, you may choose to ask the receiving hospital for this information.
First Inflation	If a PCI is performed, the time of the first balloon inflation should be recorded here. If your patient was transferred to a PCI hospital, you may choose to ask the receiving hospital for this information.

ACS Initial Management– Timeline *(cont.)*

Example:
MDM presents to the ER with chest pain. His ECG shows inferior ST segment elevation. It is elected to proceed with a combined therapy of TNK and a GP 2b/3a inhibitor. A half dose of TNK is ordered at 12:55 and started 5 minutes later. Integrilin is given 8 minutes after the thrombolytic was initiated.

Decision to Treat:	12:55
TLysis Started:	13:00
GP2b/3a Started:	13:08
First Hosp. Depart:	
Arrive Lab:	
First Inflation:	

Example:
KFD presents to the ER with chest pain. Her ECG shows anterior ST elevation and at 13:55 TNK is ordered. Her TNK begins at 14:00. By 15:10 she showed persistent ST elevation and hypotension and it was elected to transfer her for rescue PCI. She was transferred at 15:55. Later, the sending hospital called the receiving hospital and confirmed that the patient arrived at the Cath Lab at 16:20, had first inflation by 16:55, and was doing well.

Decision to Treat:	13:55
TLysis Started:	14:00
GP2b/3a Started:	
First Hosp. Depart:	15:55
Arrive Lab:	16:20
First Inflation:	16:55

Example:
Your hospital receives a call with a request to transfer a patient with initials RMA. She presented to a community hospital with chest pain, and TNK was started at 04:30. By 06:00 there was persistent ST elevation and they have requested a rescue PCI. She leaves their hospital at 6:55. RMA arrives at your Cath Lab at 07:59 and first inflation occurs by 08:25.
NB: The thrombolysis section should indicate thrombolysis as given, and indicate Given at Other Hospital.

Decision to Treat:	
TLysis Started:	04:30
GP2b/3a Started:	
First Hosp. Depart:	06:55
Arrive Lab:	07:59
First Inflation:	08:25

Example:
ENC presents to the ER with chest pain. His ECG shows ST elevation. After consult with a cardiologist, it is decided to transfer him for a primary PCI. He was transferred at 11:00. That afternoon, the sending hospital contacted the receiving hospital and learned that ENC arrived at the Cath Lab at 11:35, had first inflation at 11:55, and was admitted to the CCU in stable condition.

Decision to Treat:	
TLysis Started:	
GP2b/3a Started:	
First Hosp. Depart:	11:00
Arrive Lab:	11:35
First Inflation:	11:55

Course in CCU

This section supplies information about the patient's course in CCU including treatment, events, and investigations.

Course in CCU: Page ☐ of ☐

Date:											
Acuity: Shift:	D	N	D	N	D	N	D	N	D	N	Office
Diuretics	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Inotropes IV	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
ETT/Vent	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
PA Line	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
TTVP	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
IABP	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
ACS:											
RSCP - Ischemia – Definite	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
- Probable	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
CK (+ve)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Troponin (+ve)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
NTG IV	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Heparin - UFH	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
- LMWH	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Other Antithrombin	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
GP 2b/3a Inhibitor IV	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Clopidogrel (or any thienopyridine)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Cardiac Cath	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
PCI	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Outcomes:											
VF/Sustained VT	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Infarction (new/repeat)*(1)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Thrombolysis (new/repeat)*(2)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Stroke*(3)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Major Bleed*(4)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Transfusion	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Crs1:	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Crs2:	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
None of the Above	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
RN Initials											

***(1) Infarct (new/repeat):** (all that apply) ☐ Chest Pain ☐ ST Elevation ☐ New CK Rise

***(2) Thrombolysis (new/repeat):** ☐ rt-PA ☐ SK ☐ r-PA ☐ Other Dose: ☐

***(3) Stroke:** CT Scan: ☐ No ☐ Yes → ☐ Hemorrhagic ☐ Thrombotic ☐ Unknown
Disability: ☐ None/Minor ☐ Moderate ☐ Severe ☐ Death

***(4) Major Bleed:** ☐ GI ☐ GU ☐ Retroperitoneal ☐ Vascular Access ☐ Other: ....

Course in CCU *(cont.)*

Follow these steps to complete **Course in CCU** section of the Macstrak CCU form.

Field	Action
Page __ of __	If your patient's stay in CCU exceeds 5 days you will need to add a second page (number of pages depends on length of stay). Indicate the number of this page as well as total number of pages by filling in the appropriate number in space provided *(e.g. page _1_ of _2_).* NB: If additional pages are added, fill out the **Demographic** section in the top left corner of each new page using the information from page 1. It is not necessary to fill in Presentation Profile or Initial Management sections. When the patient is discharge, complete the **CCU Discharge** section on **page 1** of your forms.
Date	Express date numerically – it is not necessary to fill in month or year *(e.g. Date: 15, 16, 17, 18 etc.).*
Shift	**D** = Day Shift 0700 – 1900 **N** = Night Shift 1900 – 0700 *(or as defined in your unit)*

Course in CCU – Acuity

The nurse responsible for the patient's care should mark ☒ for <u>all</u> events related to patient acuity at <u>any time</u> during their shift.

Acuity	Definitions/Actions	
Diuretic IV	furosemide ethacrynic acid bumetanide chlorothiazide hydrochlorothiazide indampimide metolazone chlorthalidone spironolactone amiloride triamterene acetazolamide	Lasix® Edecrin® Burinex® Diuril® HydroDiuril®, Esidrix®, Oretic® Lozol® Zaroxolyn® Hygroton® Aldactone® Midamor®, Moduretic® Dyrenium®, Dyazide®, Maxide® Diamox®
Inotropes IV	dopamine dobutamine epinephrine norepinephrine milrinone isoproterenol	Intropin® Dobutrex® Levophed® Primacor® Isuprel®
ETT/Vent	Endotracheal tube, ventilation	
PA Line	Swan Ganz catheter	
TTVP	Temporary transvenous pacing	
IABP	Intra aortic balloon pump	

Course in CCU – ACS

The nurse responsible for the patient's care should mark ☒ for all events or treatments related to Acute Coronary Syndromes that occur in or are given to the patient at any time during their shift.

ACS	Definitions/Actions	
RSCP - Ischemia - Definite	*Retrosternal chest pain* If the chest pain is clearly ischemic, mark the corresponding box. This is a judgement call.	
RSCP - Ischemia - Probable	*Retrosternal chest pain* If the chest pain is likely to be ischemic, mark the corresponding box. This is a judgement call.	
CK (+ve)	Mark only if the patient has a positive CK (creatine kinase) during the shift.	
Troponin (+ve)	Mark only if the patient has a positive troponin during the shift.	
NTG IV	nitroglycerin IV	Nitroglycerin IV®
Heparin UFH unfractionated	heparin	Hepalean®
Heparin LMWH low molecular weight	enoxaparin dalteparin tinzaparin	Lovenox® Fragmin® Innohep®
Other Antithrombin IV	argatroban bivalirudin lepirudin danaparoid fondaparinux	Argatroban® Angiomax® Refludan® Orgaran® Arixtra®

Course in CCU – ACS (*cont.*)

ACS	Definitions/Actions	ACS
Other Antithrombin	warfarin *dabigratan*	Counmadin®
GP2b/3a Inhibitor IV	abciximab tirofiban eptifibatide	ReoPro® Aggrastat ® Integrilin®
Clopidogril (or any thienopyridine)	clopidogrel ticlopidine *prasugrel*	Plavix® Ticlid®
Cardiac Cath	Selective coronary angiography	
PCI	Percutaneous coronary intervention	

Course in CCU – Outcomes

The nurse responsible for the patient's care should mark ☒ for all outcomes that are relevant to the patient at any time during their shift.

Outcomes	Definitions/Actions
VF/Sustained VT	Ventricular fibrillation/sustained ventricular tachycardia *(i.e. >30 sec).*
Infarction (new/repeat)[*1]	An acute infarction onset during a shift in the CCU. This does not include an infarction described in Admitting Diagnosis or Initial Management. Criteria for a new infarction are: 1) a new clinical event suggestive of an acute infarction *(e.g. chest pain and/or ECG changes and/or CHF).* 2) a CK or troponin rise which is abnormal. This is intended to capture events such as: 1) patients admitted to the CCU with U/A who have a recurrent episode of chest pain related to infarction 2) patients admitted with an acute infarction who have a recurrent episode of chest pain, an extension of their initial infarction and a second CK rise The [*(1)] next to the treatment name denotes that more corresponding information is required in the box immediately below the Course in CCU section. Mark the appropriate boxes regarding the infarction: **Chest Pain**, **ST Elevation**, and **New CK Rise**.
Thrombolysis (new/repeat) [*2]	Only mark if the patient receives a thrombolytic other than at Initial Management. For example, this would be marked if the patient was admitted to CCU with U/A and develops recurrent pain with ST elevation and then receives thrombolytic therapy while in CCU, or if the patient received thrombolysis at admission, recorded in Initial Management and then requires a second dose while in the CCU. The [*(2)] next to the treatment type denotes that more corresponding information is required in the box immediately below the Course in CCU section. Mark the appropriate boxes regarding the thombolysis: **TNK/rtPA**, **SK**, **r-PA**, **Other** and **Dose**.

Course in CCU – Outcomes *(cont.)*

Outcomes	Definitions/Actions
Stroke[*3]	Mark if the patient has a CVA while in the CCU. The [*(3)] next to the event name denotes that more corresponding information is required in the box immediately below the Course in CCU section. Mark the appropriate boxes regarding Stroke: **CT Scan: Hemmorhagic**, **Thrombotic,** or **Unknown**. As well as the patient's **Disability**: **None/Minor**, **Moderate**, **Severe**, or **Death**. Disability refers to degree of disability that patient has when he/she is discharged from CCU. This is a judgement call.
Major Bleed[*4]	All clinically significant events should be recorded. (i.e. minimal emesis of "coffee grounds" or small amounts of hematuria or small hematomas at access sites should not be considered as major bleeds. All documented retroperitoneal hematomas should be included*).* The [*(4)] next to the event name denotes that more corresponding information is required in the box immediately below the Course in CCU section. Mark the appropriate boxes regarding type of bleed: **GI**, **GU**, **Retroperitoneal**, **Vascular Access**, or **Other**.
Transfusion	Mark if patient receives a blood transfusion.
CrsC1-2	This section is available to track centre-specific issues. For more information about customizing the CCU form, please refer to the Optional Groups/Optional Fields section in this manual.
None of the Above	Mark if the nurse has assessed all the criteria in Acuity, ACS and Outcomes sections but none apply to the patient.
RN Initials	Initials are required here for the nurse completing the checklist for this patient.

CCU Discharge

This section provides the final diagnosis for this CCU admission, records place of discharge, and records the date and time of discharge. The person completing this section should check that the **Demographic** section (top left-hand corner of Macstrak CCU form) is correct and complete. If there are multiple pages this information should be recorded on **page 1**.

CCU Discharge: Completed by: ☐

Date: ☐☐ **20** ☐ **Time:** ☐
Day Month Year

Discharge Diagnosis:
- ☐ Acute MI ⟶ Peak CK: ☐
- ☐ Unstable Angina Trop: ☐
- ☐ Chest Pain NYD
- ☐ CHF
- ☐ Arrhythmia
- ☐ Other Cardiac Problem: ....
- ☐ Non Cardiac Problem: ....

Discharged To:
- ☐ Cardiac Ward
- ☐ Med/Surg Ward
- ☐ Step Down Unit
- ☐ CV Surgery
- ☐ Other ICU
- ☐ Other Hospital
- ☐ Home
- ☐ Death
- ☐ Other: ....

Discharge Meds:
- ☐ ASA
- ☐ Clopidogrel (thienopyridine)
- ☐ Heparin (UF or LMW)
- ☐ Nitrates (po/top)
- ☐ B Blocker
- ☐ ACEI
- ☐ A2 Blocker
- ☐ Statin
- ☐ None of the Above

Follow these steps to complete the **CCU Discharge** section of the Macstrak CCU form.

Field	Action
Date	Print the day/month/year the patient was discharged from CCU *(e.g. 27 03 06).*
Time	To be expressed in 24-hour clock format.
Discharge Diagnosis	Mark the appropriate box to indicate the patient's diagnosis upon discharge from the CCU. **Acute MI:** *Acute myocardial infarction* Chest pain >30 min believed to be secondary to AMI with ECG changes or enzyme changes diagnostic of acute myocardial infarction. If Acute MI record **Peak CK** and/or **Peak Troponin.** **Unstable Angina:** Chest pain <30 min believed secondary to be unstable angina.

CCU Discharge *(cont.)*

Field	Action
Discharge Diagnosis *(cont.)*	**Chest Pain NYD:** *Chest pain not yet diagnosed* **CHF:** *Congestive heart failure* Diagnosis of congestive heart failure or pulmonary edema. **Arrhythmia:** Mark if patient is discharged with any arrhythmia including: supraventricular tachycardia, atrial fibrillation/flutter, heart block or VT/VF. Does not include sinus tachycardia. **Aortic Dissection:** Mark if patient is discharged with an aortic dissection. **Other Cardiac Problem:** Mark if patient's cardiac diagnosis is not listed. There is a line next to this section so centres may provide a more complete explanation of the patient's discharge diagnosis. **Non Cardiac Problem:** Mark if patient's diagnosis is non cardiac and therefore is not listed. There is a line next to this section so centres may list the patient's discharge diagnosis.
Discharged To	Indicate where your patient is discharged to when he/she leaves the CCU. There is a line provided beside **Other** so centres may provide a short explanation.
Discharge Meds	Indicate which medications your patient is discharged on when he/she leaves the CCU.

CCU Discharge *(cont.)*

Field	Generic Name	Alternate Name/trade Name
ASA	acetylsalicylic acid	ASA®, Entrophen®, Aspirin®, Apo-ASA®, ECASA® *(enteric coated)*, Asaphen®, MSD Enteric Coated ASA®, Novasen®
Clopidogrel **(or thienopyridine)**	clopidogrel ticlopidine *prasugrel*	Plavix® Ticlid®
Heparin **UFH** Unfractionated **LMWH** low molecular weight	Heparin enoxaparin dalteparin tinzaparin	Hepalean® Lovenox® Fragmin® Innohep®
Nitrates top/oral Do not include NTG SL.	isosorbide dinitrate SL/po nitroglycerin ointment nitroglycerin patches	Isordil ® Nitrobid®, Nitiol®, Nitrong® Transderm-Nitro®, Nitro-Dur® Nitrodisc®
ß Blocker	acebutolol atenolol carvedilol labetalol metoprolol nadolol pindolol propanolol sotalol bisoprolol	Sectral® Tenormin® Coreg® Trandate® Lopresor® Corgard® Visken® Inderal® Sotacor® Monocor®

CCU Discharge *(cont.)*

Field	Generic Name	Alternate name/Trade Name
ACEI	captopril enalapril lisinopril quinipril ramipril cilazapril fosinopril perindopril	Capoten® Vasotec® Prinivil®, Zestril® Accupril® Altace® Inhibace® Monopril® Coversyl®
A2 Blockers	losartan valsartan candesartan irbesartan telmisartan	Cozaar® Diovan® Atacand® Avapro® Micardis®
Statins	fluvastatin lovastatin pravastatin simvastatin atorvastatin	Lescol® Mevacor® Pravachol® Zocor® Lipitor®
None of the Above	Mark if the nurse has assessed all the discharge drugs but none apply to the patient.	
Completed by	The nurse completing this section of the form should initial here.	

Optional Groups/Optional Fields: Customizing Your Macstrak CCU Form

The Macstrak CCU form is organized such that you may customize it to suit the needs of your CCU/ICU. There are two different places on the form in which your centre can collect data related to unit-specific issues.

Optional Groups

The first section offers two Optional Groups and is located at the very bottom of the **ACS initial Management** section. These lines are labelled **Grp1**, and **Grp2**. Centres have used optional groups to track patient type such as smokers, obese patients and diabetics. The data collected is presented in a report similar to the CCU Activity Report with the two groups representing the columns on the report.

Optional Fields

In the **Course in CCU** section there are two lines for you to specify labels of your own choice. These lines are labelled **CrsC1** and **CrsC2,** which will be reported as rows on the Optional Field Report. When reports are generated it will be reported back as CrsC1 = ##. These fields are often used to track wait times for procedures or transfer. In the reports a total count of patients who waited is given as well as a total count of how many shifts during which the patients were waiting.

The blank spaces are offered for your centre's use; it is not necessary for the project office to know the specific label. Label can either be written in by hand, marked with stamps, or filled in with pre-printed peel-and-stick labels. Another method is to print a list of the fields and their definition and post one at each bedside and at the nursing station.

Reports are issued each quarter therefore you must time a change in your designation to the beginning of a quarter.