Myocardial Infarction Study 07/05

Data Collection Form - CASE

Case Definition:

All women in the UK identified as having myocardial infarction during pregnancy or immediately postpartum (before hospital discharge following delivery) after 01/08/2005. Myocardial infarction is defined using the joint European Society of Cardiology/American College of Cardiology criteria:

EITHER  A typical rise and gradual fall (troponin) or more rapid rise and fall (CK-MB) of biochemical markers of myocardial necrosis with at least one of the following: (a) ischaemic symptoms, (b) development of pathologic Q waves on the ECG, (c) ECG changes indicative of ischaemia (ST segment elevation or depression), or (d) coronary artery intervention (e.g. coronary angioplasty)

OR Pathological findings of an acute MI.

Please return the completed form to:

UKOSS
National Perinatal Epidemiology Unit
University of Oxford
Old Road Campus
Oxford
OX3 7LF

Fax: 01865 289701
Phone: 01865 289714

Case reported in: ____________
Instructions

1. Please do not enter any personally identifiable information (e.g. name, address or hospital number) on this form.

2. Please record the ID number from the front of this form against the woman’s name on the Clinician’s Section of the blue card retained in the UKOSS folder.

3. Fill in the form using the information available in the woman’s case notes.

4. Tick the boxes as appropriate. If you require any additional space to answer a question please use the space provided in section 7.

5. Please complete all dates in the format DD/MM/YY, and all times using the 24hr clock e.g. 18.37

6. If codes or examples are required, some lists (not exhaustive) are included on the back page of the form.

7. If the woman has not yet delivered, please complete the form as far as you are able, excluding delivery and outcome information, and return to the UKOSS Administrator. We will send these sections again for you to complete two weeks after the woman’s expected date of delivery.

8. If you do not know the answers to some questions, please indicate this in section 7.

9. If you encounter any problems with completing the form please contact the UKOSS Administrator or use the space in section 7 to describe the problem.
## Section 1: Woman’s details

1.1 Year of birth

1.2 Ethnic group\* (enter code, please see back cover for guidance)

1.3 Marital status

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>single</td>
<td></td>
<td></td>
</tr>
<tr>
<td>married</td>
<td></td>
<td></td>
</tr>
<tr>
<td>cohabiting</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1.4 Was the woman in paid employment at booking?

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If Yes, what is her occupation

If No, what is her partner’s (if any) occupation

1.5 Height at booking (cm)

1.6 Weight at booking (kg)

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>never</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gave up prior to pregnancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>current</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gave up during pregnancy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1.7 Smoking status

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>never</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gave up prior to pregnancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>current</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gave up during pregnancy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Section 2: Previous Pregnancies

2.1 Gravidity

Number of completed pregnancies beyond 24 weeks

Number of pregnancies less than 24 weeks

If no previous pregnancies, please go to section 3.

2.2 Did the woman have any previous pregnancy problems?\*

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If Yes, please specify

## Section 3: Previous Medical History

Please indicate whether any of the following were present

3.1 Current or previous essential hypertension

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.2 History of ischaemic heart disease (include angiography/angioplasty)

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If Yes, please specify diagnosis

3.3 History of congenital heart disease

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If Yes, please specify diagnosis

3.4 History of cardiac surgery

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If Yes, please specify

<table>
<thead>
<tr>
<th>Valve replacement surgery</th>
<th>metal</th>
<th>other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other type of surgery</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.5 Diabetes mellitus

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If Yes, please specify

<table>
<thead>
<tr>
<th>Insulin dependant (type 1)</th>
<th>Non-insulin dependant (type 2)</th>
<th>Date of onset (if known)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

3.6 Known hyperlipidaemia

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.7 Other previous or pre-existing medical problems?\*

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If Yes, please specify

3.8 History of premature ischaemic heart disease in first degree relatives (males < 55 years, females < 60 years)

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.9 Previous use of combined oral contraceptives

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If Yes, please specify date discontinued (if known)

<table>
<thead>
<tr>
<th>Date discontinued (if known)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

*For guidance please see back cover
### Section 4a: This Pregnancy

**4a.1** Final Estimated Date of Delivery (EDD)*

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Day</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**4a.2** Was this pregnancy a multiple pregnancy?

- Yes [ ]
- No [ ]

If Yes, please specify number of fetuses

**4a.3** Were there problems in this pregnancy?*

- Yes [ ]
- No [ ]

If Yes, please specify

**4a.4** Was pregnancy-induced hypertension or pre-eclampsia diagnosed in this pregnancy?

- Yes [ ]
- No [ ]

**4a.5** Was threatened pre-term labour diagnosed in this pregnancy?*

- Yes [ ]
- No [ ]

If No, please go to next question

If Yes, was tocolytic therapy used?

- Yes [ ]
- No [ ]

If tocolytic therapy was used, specify agent and date treatment commenced

<table>
<thead>
<tr>
<th>Agent</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Section 4b: Diagnosis of myocardial infarction

**4b.1** Date and time of diagnosis

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Day</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**4b.2** Site of MI/ECG changes (e.g. anterior/inferior/septal)

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**4b.3** Did the woman have any of the following?

1. Symptoms consistent with myocardial ischaemia
   - Yes [ ]
   - No [ ]

2. ECG
   - Yes [ ]
   - No [ ]

If Yes, were any of the following changes observed (tick all that apply)

- ST elevation [ ]
- ST depression [ ]
- Q waves [ ]

3. Echocardiography
   - Yes [ ]
   - No [ ]

If Yes, was hypokinesis of the myocardial wall seen?

- Yes [ ]
- No [ ]

If Yes, please specify which wall

---

4. Coronary angiography
   - Yes [ ]
   - No [ ]

If Yes, please indicate the findings below (tick all that apply)

- Coronary atherosclerosis [ ]
- Intracoronary thrombus [ ]
- Coronary artery dissection [ ]
- Coronary artery aneurysm [ ]
- Normal coronary arteries [ ]

### Section 4c: Laboratory tests

**4c.1** Please record the blood levels of the following at diagnosis and at their maximum level

<table>
<thead>
<tr>
<th>Marker</th>
<th>Level at diagnosis</th>
<th>Highest recorded level</th>
<th>Date highest level was recorded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Troponin I (ng/ml)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Troponin T (ng/ml)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creatine Kinase MB fraction (CK-MB) (U/l)</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

*For guidance please see back cover
**Section 4d: Therapy**

**4d.1 Please specify if any of the following therapies were used (tick all that apply)**

<table>
<thead>
<tr>
<th>Agent</th>
<th>Prior to pregnancy</th>
<th>During pregnancy</th>
<th>At the time of MI</th>
<th>Following the MI</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACE inhibitor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antihypertensives</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aspirin</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>β-blockers (e.g. labetolol, atenolol)</td>
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<tr>
<td>Calcium antagonists (e.g. nifedipine)</td>
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<tr>
<td>Clopidogrel</td>
<td></td>
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<tr>
<td>Low molecular weight heparin</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Nitrates</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statins</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unfractionated heparin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warfarin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angioplasty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CABG</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Cardioversion</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Coronary artery stenting</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Intra-aortic balloon pump</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temporary pacing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thrombolysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If thrombolysis was used, please indicate agent used, whether systemic or intracoronary and whether any complications of use were noted

**Section 4e: Complications**

**4e.1 Please indicate if any of the following complications occurred during the pregnancy**

<table>
<thead>
<tr>
<th>Morbidity</th>
<th>Yes</th>
<th>Date of diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac arrest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cardiogenic shock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abnormal heart rhythm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cardiac failure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please specify)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Section 5: Delivery

5.1 Is this woman still undelivered?  
Yes ☐  No ☐

If Yes, will she be receiving the rest of her antenatal care from the current hospital?  
Yes ☐  No ☐

If care will be provided at a different hospital, please indicate name of hospital providing future care, then go to section 7  
__________________________________________________________

If No, please continue

5.2 Was delivery induced?  
Yes ☐  No ☐

If Yes, please state indication

Was vaginal prostaglandin used?  
Yes ☐  No ☐

5.3 Did the woman labour?  
Yes ☐  No ☐

5.4 Was delivery by caesarean section?  
Yes ☐  No ☐

If Yes, please state whether elective ☐ OR emergency ☐

Please state grade of urgency* and give indication for caesarean section

Method of anaesthesia  
regional ☐ OR general anaesthetic ☐

Section 6: Outcomes

Section 6a: Woman

6a.1 Was the woman admitted to a coronary care unit?  
Yes ☐  No ☐

If Yes, date of admission  
__________________________

duration of stay (days)  
__________________________

Or Tick if woman is still in coronary care unit

Or Tick if woman was transferred to another hospital CCU

6a.2 Was the woman admitted to ITU/HDU?  
Yes ☐  No ☐

If Yes, date of admission  
__________________________

duration of stay (days)  
__________________________

Or Tick if woman is still in ITU/HDU

Or Tick if woman was transferred to another hospital ITU

6a.3 Did any other major maternal morbidity occur?*  
Yes ☐  No ☐

If Yes, please specify

6a.4 Did the woman die?  
Yes ☐  No ☐

If Yes, please specify date and time of death  
__________________________

If the woman died, what was the primary cause of death as stated on the death certificate?

Was a post mortem examination undertaken?  
Yes ☐  No ☐

If Yes, please indicate the findings below (tick all that apply)

Coronary atherosclerosis ☐  Intracoronary thrombus ☐

Coronary artery dissection ☐  Coronary artery aneurysm ☐

Normal coronary arteries ☐  Evidence of acute myocardial infarction ☐

*For guidance please see back cover
Section 6b: Infant 1

NB: If more than one infant, for each additional infant, please photocopy the infant section of the form (before filling it in) and attach extra sheet(s) or download additional forms from the website: www.npeu.ox.ac.uk/ukoss

6b.1 Date and time of delivery

6b.2 Mode of delivery
   spontaneous vaginal □ ventouse □ lift-out forceps □ rotational forceps □
   breech □ pre-labour caesarean section □ caesarean section after onset of labour □

6b.3 Birthweight (g)

6b.4 Was the infant stillborn?
   Yes □ No □
   If Yes, go to section 7

6b.5 5 min Apgar

6b.6 Was the infant admitted to the neonatal unit?
   Yes □ No □
   If Yes, duration of stay (days)
   Or Tick if infant is still in NICU/SBCU
   Or Tick if infant was transferred to another hospital

6b.7 Did any major infant complications occur?**
   Yes □ No □
   If Yes, please specify

6b.8 Did this infant die?
   Yes □ No □
   If Yes, please specify date of death
   □ □ □ / □ □ □ / □ □
   What was the primary cause of death as stated on the death certificate?
   (please state if not known)

Section 7

Please use this space to enter any other information you feel may be important

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Section 8:

Name of person completing the form ________________________________

Designation ________________________________

Today’s date □ □ □ / □ □ □ / □ □

You may find it useful in the case of queries to keep a copy of this form.
If you are unable to make a copy please tick the box □
Definitions

1. UK Census Coding for ethnic group
   WHITE
   01. British
   02. Irish
   03. Any other white background
   MIXED
   04. White and black Caribbean
   05. White and black African
   06. White and Asian
   07. Any other mixed background
   ASIAN OR ASIAN BRITISH
   08. Indian
   09. Pakistani
   10. Bangladeshi
   11. Any other Asian background
   BLACK OR BLACK BRITISH
   12. Caribbean
   13. African
   14. Any other black background
   CHINESE OR OTHER ETHNIC GROUP
   15. Chinese
   16. Any other ethnic group

2. Previous or current pregnancy problems, including:
   - Thrombotic event
   - Amniotic fluid embolism
   - Eclampsia
   - 3 or more miscarriages
   - Preterm birth or mid trimester loss
   - Neonatal death
   - Stillbirth
   - Baby with a major congenital abnormality
   - Small for gestational age (SGA) infant
   - Large for gestational age (LGA) infant
   - Infant requiring intensive care
   - Puerperal psychosis
   - Placenta praevia
   - Gestational diabetes
   - Significant placental abruption
   - Post-partum haemorrhage requiring transfusion
   - Surgical procedure in pregnancy
   - Hyperemesis requiring admission
   - Dehydration requiring admission
   - Ovarian hyperstimulation syndrome
   - Severe infection e.g. pyelonephritis

3. Previous or pre-existing maternal medical problems, including:
   - Cardiac disease (congenital or acquired)
   - Renal disease
   - Endocrine disorders e.g. hypo or hyperthyroidism
   - Psychiatric disorders
   - Haematological disorders e.g. sickle cell disease,
   - diagnosed thrombophilia
   - Inflammatory disorders e.g. inflammatory bowel disease
   - Autoimmune diseases
   - Cancer
   - HIV

4. Possible risk factors for acute myocardial infarction in pregnancy, including:
   - Low levels of HDL cholesterol
   - High levels of LDL cholesterol
   - Cocaine use
   - Valvular heart disease
   - Vasculitis
   - Bromocriptine/cabergoline use

5. Estimated date of delivery (EDD):
   Use the best estimate (ultrasound scan or date of last menstrual period) based on a 40 week gestation

6. RCA/RCOG/CEMACH/CNST Classification for urgency of caesarean section:
   1. Immediate threat to life of woman or fetus
   2. Maternal or fetal compromise which is not immediately life-threatening
   3. Needing early delivery but no maternal or fetal compromise
   4. At a time to suit the woman and maternity team

7. Major maternal medical complications, including:
   - Persistent vegetative state
   - Cardiac arrest
   - Cerebrovascular accident
   - Adult respiratory distress syndrome
   - Disseminated intravascular coagulopathy
   - HELLP
   - Pulmonary oedema
   - Mendleson's syndrome
   - Renal failure
   - Thrombotic event
   - Septicaemia
   - Required ventilation

8. Fetal/infant complications, including:
   - Respiratory distress syndrome
   - Intraventricular haemorrhage
   - Necrotising enterocolitis
   - Neonatal encephalopathy
   - Chronic lung disease
   - Severe jaundice requiring phototherapy
   - Major congenital anomaly
   - Severe infection e.g. septicaemia, meningitis
   - Exchange transfusion