

## General Introduction

- It is important to recognise that there are two patients.
- Effective resuscitation of the mother will provide effective resuscitation of the fetus.
- Resuscitation priority is the mother.

## 1. Cardiac Arrest

**Undertake a TIME CRITICAL transfer as soon as ventilation is achieved and CPR commenced.**

### 1.1 Introduction

- The approach to resuscitating an obstetric patient is the same as that of any adult in cardiac arrest; but in the third trimester additional measures must be undertaken to maximise the efficacy of resuscitation.
- Because fetuses can tolerate significant levels of hypoxia, resuscitation should be initiated immediately and **NOT** terminated in prehospital care, even in cases where the mother's condition is, or appears non-survivable or unequivocally associated with death, as this will maximise the chances of both maternal and fetal survival.

### 1.2 Risk factors

There is an increased risk of maternal mortality for patients who are:

- Socially disadvantaged.
- From poor communities.
- From minority ethnic groups.
- Late in booking for antenatal care or have poor attendance.
- Obese.
- The victims of domestic violence.
- Substance abusers.

### 1.3 Pathophysiology

- Cardiac arrest in pregnancy is very rarely due to a primary cardiac cause. Common causes of sudden maternal death include pulmonary or amniotic fluid embolus.
- There are a number of physiological and anatomical changes during pregnancy that may influence the management of the obstetric patient (**refer to obstetrics and gynaecology overview guideline**).

### 1.4 Assessment and management

For the assessment and management of cardiac arrest during pregnancy refer to Table 2.8.

## 2. Shock

### 2.1 Pathophysiology

The failure of perfusion of the tissues with oxygenated blood due to loss of circulating fluid volume may be due to:

- **Hypovolaemic shock** – loss of circulating fluid volume due to haemorrhage.
- **Septic shock** – movement of circulating fluid volume into the interstitial spaces due to increased capillary permeability.
- **Cardiogenic shock** – pump failure or obstruction in the circulatory system.
- **Anaphylactic shock** – severe allergic reaction.
- **Neurogenic shock in trauma** – loss of nervous control of blood vessels leading to relative hypovolaemia.

### 2.2 Risk factors

There are a number of associated risk factors including:

- Intercurrent heart disease (**cardiogenic shock**).
- Thromboembolism or amniotic fluid embolism (**cardiogenic shock**).

**Table 2.8 – ASSESSMENT and MANAGEMENT of:**

## Cardiac Arrest

### ASSESSMENT

- Undertake a primary survey ABCDEF

### MANAGEMENT

- Manage as per standard advanced life support (**refer to ALS guideline**).
- Assess and exclude treatable causes including hypovolaemia, sepsis and anaphylactic shock.

- **Caution** – ventilation with a bag-valve-mask may lead to regurgitation and aspiration. Consider early tracheal intubation which reduces the risk of gastric aspiration and may make ventilation of the lungs easier. A supraglottic airway is a suitable alternative (**refer to airway and breathing management guideline**).
- If no response to CPR after 4 minutes undertake a **TIME CRITICAL** transfer to nearest suitable receiving hospital; provide an alert/information call – ask to have an **OBSTETRICIAN ON STANDBY IN THE EMERGENCY DEPARTMENT** for an emergency Caesarean section (in this situation delivering the fetus **MAY** facilitate maternal resuscitation).

- Manually displace the uterus to the left or tilt the patient to the left (15–30 degrees) to remove compression of the inferior vena cava.  
NB The angle of tilt needs to allow good quality chest compressions (**refer to obstetrics and gynaecology overview**).

- Aim to establish intravascular access using a **LARGE BORE** cannula without delay in transfer to hospital.
- Attempt IO access if rapid IV cannulation is not possible.