PROCEDURE CHECKLIST

Resuscitative hysterotomy (perimortem caesarean) in maternal cardiac arrest

Emergency delivery of the fetus by caesarean section at the site of a maternal cardiac arrest, performed to relieve aortocaval compression and improve the chance of maternal return of spontaneous circulation.

EM Orbit

Patient reference	Date	Time	Completed by

Equipment ready

- [ ] Scalpel (any available blade; no dedicated set is needed)
- [ ] Gloves and, if immediately available, an apron or gown (do not delay for them)
- [ ] Two clamps for the umbilical cord, and scissors or the scalpel to cut it
- [ ] Towels or warm dry cloths and a neonatal resuscitation area, with neonatal equipment prepared by the neonatal team
- [ ] Swabs and large packs for bleeding control
- [ ] Uterotonic drugs and tranexamic acid for after return of circulation, per local protocol
- [ ] Suture and instruments for later closure (not needed for the initial procedure)

Before · Recognise and call

- [ ] Start standard adult advanced life support at once: call the cardiac arrest team and note the time of collapse.
- [ ] Call obstetrics, anaesthesia and the neonatal team at the start of the arrest, and state that a resuscitative hysterotomy may be needed.
- [ ] Palpate the uterine fundus: at or above the umbilicus means the hysterotomy indication is met if the arrest continues.
- [ ] Assign one person as the timekeeper to announce 1, 2, 3, 4 and 5 minutes of arrest.

Before · Maternal resuscitation while preparing

- [ ] Start chest compressions at the standard position and rate with minimal interruption, and use manual left uterine displacement throughout.
- [ ] Give 100% oxygen and secure the airway early with the most experienced airway operator; anticipate a difficult airway in pregnancy.
- [ ] **Defibrillate shockable rhythms as normal. Do not delay defibrillation because of pregnancy or because of preparation for hysterotomy.**
- [ ] Establish intravenous or intraosseous access above the diaphragm and give resuscitation drugs as per the standard advanced life support algorithm.
- [ ] Remove any fetal monitoring equipment from the patient before delivery.
- [ ] Begin the search for reversible causes in parallel (haemorrhage, embolism, anaesthetic complications, cardiac disease, eclampsia, sepsis, the 4 Hs and 4 Ts); do not delay hysterotomy to identify the cause.

Before · Decision and set-up

- [ ] Decide to proceed with resuscitative hysterotomy as soon as the arrest is established; aim to start the incision by 4 minutes of arrest and to deliver by 5 minutes.
- [ ] **Perform the procedure where the arrest is happening. Do not move the patient to theatre or another area.**
  Moving the patient interrupts compressions and wastes critical minutes.
- [ ] **Do not wait for the obstetric or neonatal team, theatre staff or specialist instruments before starting.**
- [ ] **Do not stop chest compressions or manual left uterine displacement while preparing or performing the incision, unless the operator needs a brief pause for a critical step.**
- [ ] Expose the abdomen. Do not delay the incision for skin preparation, sterile drapes or gowning.
- [ ] Brief the team in one sentence: who is operating, who holds the uterus to the left, who receives the baby and who continues compressions.

During · Incision and delivery

- [ ] Make a vertical midline incision from the umbilicus (or just above it) down to the pubic symphysis, through skin and subcutaneous tissue in one firm cut.
- [ ] Continue down through the rectus sheath, separate the muscles in the midline, and open the peritoneum with a careful cut, taking care to avoid injuring the bowel and bladder.
- [ ] Identify the uterus and make a vertical incision in the midline of the uterine body, cutting layer by layer to avoid cutting the fetus.
- [ ] Insert a hand into the uterus, find the fetal head or presenting part and lift it out through the incision.
- [ ] Deliver the baby, then the body, supporting the head and shoulders. Keep the baby at the level of the uterus.
- [ ] Clamp the umbilical cord twice, cut between the clamps, and hand the baby straight to the neonatal team or the assigned team member.

During · Maternal circulation after delivery

- [ ] Deliver the placenta and membranes if they come away easily; do not spend time on them. Place a pack or compress the uterus to control bleeding.
- [ ] Continue advanced life support, with compressions at the standard position, uninterrupted. After delivery, manual left uterine displacement is no longer needed.
- [ ] Check the rhythm and pulse at the normal 2-minute intervals; give drugs and shocks per the standard algorithm.
- [ ] **Do not stop resuscitation because the baby has been delivered. The maternal arrest continues until circulation returns or a senior clinician stops the attempt.**

After · After return of spontaneous circulation

- [ ] Once circulation has returned, start post-resuscitation care as for any cardiac arrest, and call for transfer to theatre and intensive care.
- [ ] Give a uterotonic and tranexamic acid per local protocol, and control uterine bleeding with uterine compression and packing.
- [ ] Give antibiotics per local protocol, as the delivery was not performed under sterile conditions.
- [ ] Obstetric and surgical team to formally close the uterus and abdomen, to check for injury to the bowel and bladder, and to control bleeding in theatre.
- [ ] Treat any identified cause (for example massive haemorrhage, embolism, eclampsia, or local anaesthetic toxicity) in parallel.

After · Newborn, documentation and support

- [ ] Neonatal team to complete resuscitation and transfer the baby to the neonatal unit.
- [ ] Document the time of collapse, the time the decision was made, the times of the start of the incision and of delivery, the times of return of circulation, the people involved, the actions taken and the reasons.
- [ ] Debrief the team and offer support to them and to the family; senior clinicians should communicate honestly with the family.
- [ ] Report the event through the local incident system and refer the case for review and for the maternal death or serious incident pathway as applicable.