Emergency Surgical Procedures

This guideline contains four action cards for the major pre-hospital emergency surgical procedures

- Thoracotomy
- Surgical Airway
- Resuscitative Hysterotomy
- Amputation
TEAM / CRM / SAFETY
DECLARE “Thoracotomy needed”
Get 360⁰ access – MOVE if required
Brief team, Task Allocate:
HAND OFF: command, control, egress plan
HAND OFF: airway, access, blood
Think SCALPEL SAFETY: hands away
CLEAR onlookers – get privacy

YOU NEED
EYE PROTECTION
GLOVES (sterile over non-sterile)
Light - Head Torches
Suction
Orange Disposal Bag
Sharps box

Surgical Procedures Pack (trauma bag)
- Size 24 Scalpel
- Spencer Wells Forceps
- Gigli saw & handles
- Sterile Tuffcuts
- Sterile Scissors

Procedure
BILATERAL 4th ICS Thoracostomy with normal technique
INCISE left then right of chest in “W” sternum to thoracostomy to PAL
COMPLETE thoracotomy with Sterile TUFFCUTS
BLUNT dissect tissue from back of sternum
DIVIDE sternum with TUFFCUTS (or forceps and Gigli Saw)
SUCTION, compress bleeding, look for tamponade
Open PERICARDIUM vertically – forceps, scissors
Remove Clots, Suction, Occlude Holes, Suture, Staple
OPERATOR bimanual heart compressions
Consider help to COMPRESS aorta at diaphragm

Asystole
Blood, Flick Heart, Adrenaline

VF
Hands out, PADS on, Press chest closed, Shock

ROSC
Ketamine, Rocuronium, Control haemorrhage, Package
SHARPS safety and clear up READY TO GO

TRANSPORT
Put WRONG WAY round on trolley
Patient’s head points ambulance back doors

STANDBY CALL
State: “REQUEST TRAUMA TEAM - CODE RED – THORACOTOMY - OPEN CHEST - ETA is ……”
**Surgical Airway**

**YOU NEED**
- **Eye Protection**
- Gloves (sterile over non-sterile)
- Light - Head Torches
- Suction
- Orange Disposal Bag
- Sharps box

**SCRAM Airway Pack**
- Sterile Hook
- Size TEN Scalpel
- Tracheal Dilators
- Size SIX ET Tube
- TWENTY ml Syringe for Tube Cuff
- Size TEN (MEDIUM) Bougie

**TEAM / CRM / SAFETY**
- Declare “Surgical Airway needed”
- Get 360° access – MOVE if required
- Brief team, Task Allocate:
  - HAND OFF: command, control, egress plan
  - HAND OFF: airway, access, blood
- Think SCALPEL SAFETY: hands away

**Procedure**
- Extend the neck – blankets, IV fluid bag, head off trolley
- Stabilise larynx with one hand
- Identify cricothyroid membrane
- Incise horizontal stab incision through cricothyroid membrane
- Rock scalpel horizontally
- Consider: Hook or dilators by assistant
- Insert Bougie
- Railroad endotracheal tube over bougie – gentle rotation
- Bougie out, Balloon up,
- ET Co₂, BVM, Listen, Trace – Confirm
- Secure tube

**CONTINUE** Resuscitation

**Blood will spray when incising the trachea**
- Wear eye protection
INDICATIONS
CARDIAC ARREST > 4mins in Visibly PREGNANT Patient (20 weeks - Uterus at Umbilicus)
MUM is priority
DISPLACE Uterus to Patients LEFT Side During CPR

TEAM / CRM / SAFETY
DECLARE “C-section needed”
Get 360° access – MOVE if required
Brief team, Task Allocate:
HAND OFF: command, control, egress plan
HAND OFF: airway, access, blood
CLEAR onlookers - get privacy
Think SCALPEL SAFETY: hands away
IDENTIFY who takes baby

YOU NEED
EYE PROTECTION
GLOVES (sterile over non-sterile)
Light - Head Torches
Suction
Orange Disposal Bag
Sharps box

Surgical Procedures Pack (trauma bag)
- Size 24 Scalpel
- Spencer Wells Forceps
- Sterile Scissors
Dressings Pack (trauma bag)
- Wound pads / packs
Maternity Pack (SAS)

Procedure
INCISION MIDLINE Sternum to Pubis
Small Incision Lower Midline UTERUS
SCISSORS to Open Uterus Upwards VERTICALLY - DELIVER BABY
CLAMP and CUT Cord - HAND OFF Baby to Team
GENTLY remove Placenta, BIMANUAL COMPRESSION of uterus
If unable, PACK UTERUS and abdomen with Gauze/Towels and cover
DRUGS required - TXA, Syntocinon, Misoprostol (PR or SL)

ROSC
Continue RESUSCITATION
MATERNAL ROSC - Sedation, Paralysis and Package for Transport
SHARPS safety and clear up READY TO GO

TRANSPORT
to TRAUMA CENTRE

STANDBY CALL
State: “Request TRAUMA TEAM - CODE RED - FIELD C-SECTION - OPEN ABDOMEN - ALERT PAEDS ED – ETA…..”
INDICATIONS
NO OTHER OPTION to free entrapped patient
IMMEDIATE THREAT TO LIFE greater than time necessary to free limb
ACCESS to live patient via deceased

YOU NEED
EYE PROTECTION
GLOVES (sterile over non-sterile)
Light - Head Torches
Suction
Orange Disposal Bag
Sharps box
Surgical Procedures Pack (trauma bag)
- Size 24 Scalpel
- Spencer Wells Forceps
- Gigli Saw and handles
Dressings Pack (trauma bag)
- Blast/Modular bandages
- Celox

STANDBY CALL
State: “Request TRAUMA TEAM - CODE RED - FIELD AMPUTATION - ETA.....”

TEAM / CRM / SAFETY
DECLARE “Amputation needed”
Think SCALPEL SAFETY: hands away

TRANSPORT
to TRAUMA CENTRE

Procedure
Confirm HAEMORRHAGE CONTROL: CAT(s)
Sedation / Analgesia with Ketamine or RSI
DISTAL as far as possible
TRANSVERSE incision across limb everything except bone
PUSH Forceps Through Below Bone
GRAB AND PULL Gigli Saw Blade Back Through
ATTACH Handles
FORCEPS Along Bone To Protect Operators
SAW Upwards Through Bone
COMPLETE Amputation With Scalpel
CELOX & MODULAR/BLAST BANDAGE

SHARPS safety and clear up READY TO GO
Is Limb Retrievable? Wrap and Transport With Patient


## 2. Document History

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3. Scope and purpose

- **Overall objectives:**
The aim of this guideline is to define procedure for the four emergency surgical interventions of thoracotomy, surgical airway, peri-mortem Caesarean section and field amputation. Each is designed as a stand-alone operational cognitive aide.

- **Statement of intent:**
This guideline is not intended to be construed or to serve as a standard of care. Adherence to guideline recommendations will not ensure a successful outcome in every case, nor should they be construed as including all proper methods of care or excluding other acceptable methods of care aimed at the same results. The ultimate judgement must be made by the appropriate healthcare professional(s) responsible for clinical decisions regarding a particular clinical procedure or treatment plan. Clinicians using this guideline should work within their skill sets and usual scope of practice.

- **Feedback:**
Comments on this guideline can be sent to: scotamb.CPG@nhs.net

- **Equality Impact Assessment:**
Applied to the ScotSTAR Clinical Standards group processes.

- **Guideline process endorsed by the Scottish Trauma Network Prehospital, Transfer and Retrieval group.**