


Management of Major Obstetric Haemorrhage

Dr Issie Gardner
 St Michael's Hospital
 Bristol

January 2016


University Hospitals Bristol 
 NHS Foundation Trust

Avoiding Major Obstetric Haemorrhage

Identify those at risk


Antenatal **Labour** **Post partum**

Intervene before life threatening

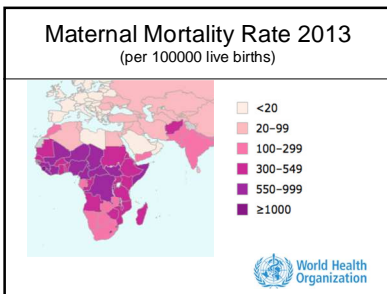
University Hospitals Bristol 
 NHS Foundation Trust

Management of Major Obstetric Haemorrhage

Importance Aspects of management



Diagnosis New Developments



Healthcare Improvement Scotland

Home About us News and events Evidence Improvement Scrutiny Research

Home > Reproductive, maternal & child > Reproductive health > SCASMM

SCASMM Scottish Confidential Audit of Severe Maternal Morbidity

Previous SCASMM reports

10th annual report

80% of near miss morbidity
 6 per 1000 maternities

Causes Maternal Death UK




October 2016

Haemorrhage deaths

Table 4.1 Direct deaths by type of obstetric haemorrhage 1994-2012

Time period	Placental Abruption	Placenta praevia	Postpartum haemorrhage		Total deaths from haemorrhage
			Atomy	Genital Tract Trauma	
1994-06	4	3	5	5	17
1997-09	3	3	4	2	9
2000-02	3	4	10	1	18
2003-05	2	3	9	3	17
2006-08	2	2	3+2	(0/2)	9
2009-12*	2	1*	7**	7***	17

Haemorrhage 3rd leading cause




Life threatening haemorrhage


Table 4.2 Estimated blood volumes and proportionate losses according to body weight

Weight	Total blood volume*	15% blood volume loss	30% blood volume loss	40% blood volume loss
50kg	2000mls	300mls	600mls	800mls
55kg	2200mls	330mls	660mls	880mls
60kg	2400mls	360mls	720mls	960mls
65kg	2600mls	390mls	780mls	1040mls
70kg	2800mls	420mls	840mls	1120mls

*Based on 100ml/kg blood volume in pregnancy (Royal College of Obstetricians and Gynaecologists 2011a) but may overestimate blood volume in obese women (Lemmens, Barnsten et al. 2006)



An anaemic woman had a caesarean section after a very prolonged labour. She was of small stature and lost almost 1000mls at surgery. No blood was ordered. Three hours later when she then bled 2500mls vaginally from an atonic uterus she was initially resuscitated with fluids, receiving 8 litres of crystalloid and 2 litres of colloid before blood was available for her. She developed pulmonary oedema and was intubated ventilated and transferred to ITU where she died from ARDS, sepsis and multi-organ failure a month later.



An anaemic woman had a caesarean section after a very prolonged labour. She was of small stature and lost almost 1000mls at surgery. No blood was ordered. Three hours later when she then bled 2500mls vaginally from an

with **"Avoid fluids that don't clot or carry oxygen !!"**

2 li

her

was intubated ventilated and transferred to ITU where she died from ARDS, sepsis and multi-organ failure a month later.



Preparation for delivery

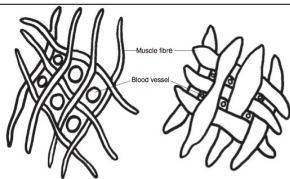
red cell mass
plasma volume
clotting factors



Delivery

uterine contraction
arterioles constricting
clot formation

Uterine Contraction



Haemorrhage causes

APH	placenta praevia abruption
Tone	uterine atony (75-90%)
Tissue	retained products
Trauma	vaginal/cervical lacerations, ruptured uterus, broad ligament haematoma
Thrombin	coagulopathies

Definitions

University Hospitals Bristol

Obstetric haemorrhage continuum

Minor	> 500 -1000ml
Moderate	> 1000 -1500ml
Major	> 1500 - 2000ml
Massive	> 2000ml

Intervene before life threatening

Massive obstetric haemorrhage

Blood loss of >2000mls or > 1500 ml with ongoing loss and/or signs of circulatory collapse:

- Tachycardia (pulse>120)
- Hypotension (systolic bp<80mmhg)
- Tachypnoea (>30 breaths per minute)
- Confusion

If signs circulatory collapse present MOH irrespective of measured blood loss

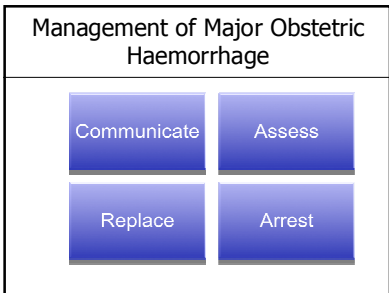
University Hospitals Bristol

Diagnosis

- **Assessing blood loss**
 - underestimation most likely
- **Compensation can lead to late diagnosis**
 - Tachycardia
 - Hypotension
 - Poor peripheral perfusion
 - Altered conscious state
 - Unexplained metabolic acidosis

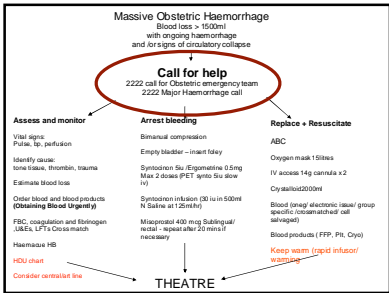
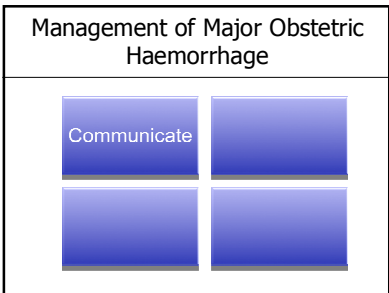
Diagnosis

Modified
Obstetric
Early
Warning
Score



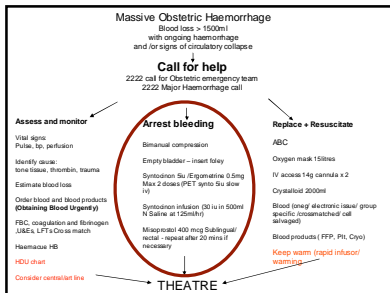
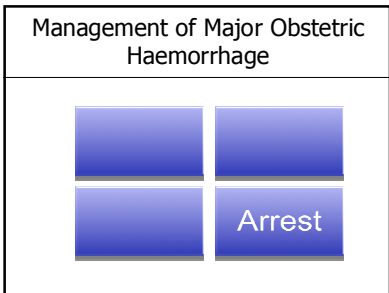
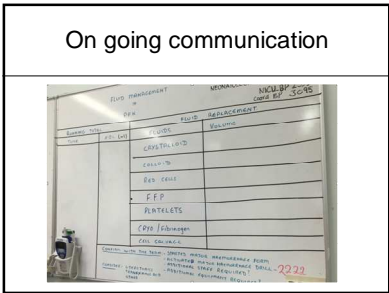
Multidisciplinary

midwives
obstetricians
anaesthetists
midwifery assistants
theatre staff
haematologist / BTS
porters
ITU



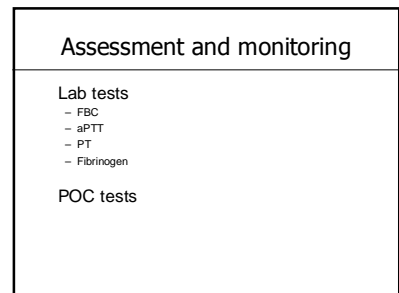
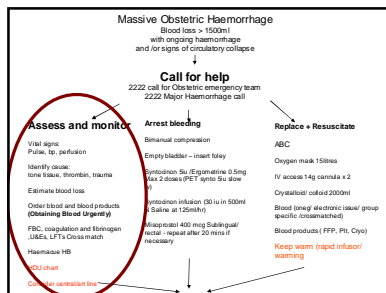
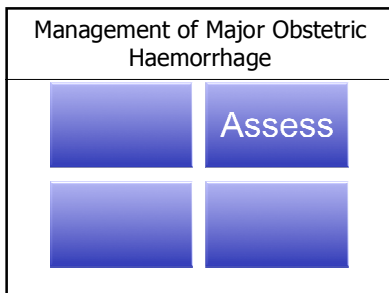
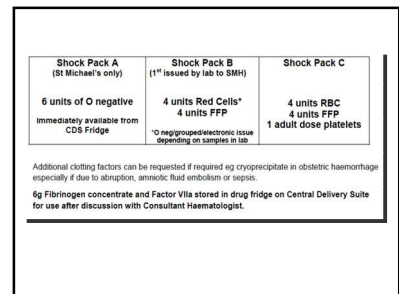
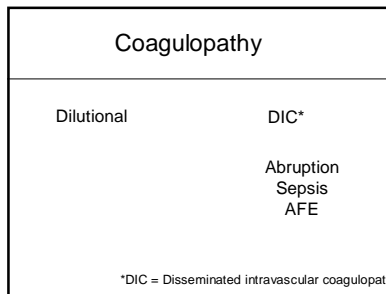
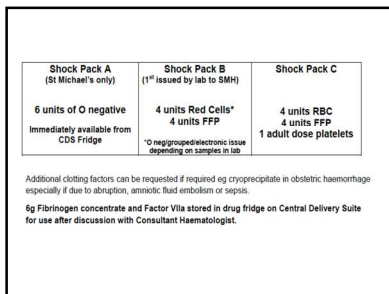
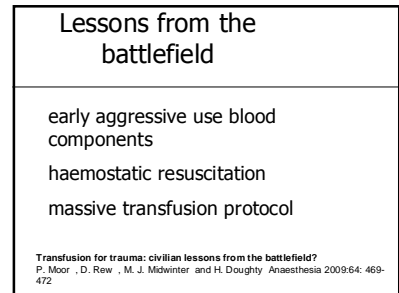
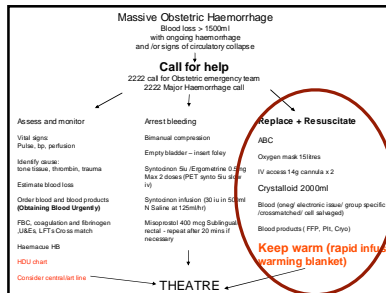
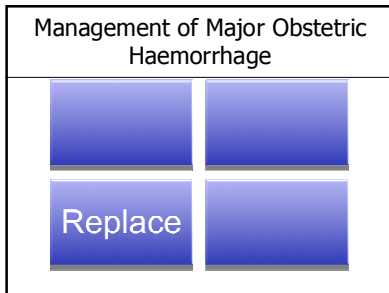
OBTAINING BLOOD URGENTLY MAJOR HAEMORRHAGE PROCEDURE St Michael's Hospital

1. Call 2222
"I am activating the major haemorrhage procedure for - give exact location (eg theatre 2, St Michael's Hospital) and extension number"
2. Switchboard will call you back and connect you to the lab-
 - Provide patient identification details and contact number
 - Shock Pack B will be issued automatically. State if additional specific products required eg cryoprecipitate (see below)
 - Blood samples for immediate collection yes or no? if yes BSI porter will be sent via taxi to SMH to collect samples whilst shock pack being prepared



Surgical interventions

consider early
EUA
Intra uterine balloon
B Lynch suture
Internal iliac ligation
Hysterectomy



Haemorrhage Top Tips

identify those at risk
treat anaemia pre labour
avoid fluids that don't carry oxygen or clot
avoid hypothermia
keep everyone up to speed
give tranexamic acid
think fibrinogen

Haemorrhage References

MBRRACEUK Saving Mothers Lives 2014 Report
<https://www.npeu.ox.ac.uk/mbrance-uk/reports>
SCASMM
http://www.healthcareimprovementscotland.org/our_work/reproductive_maternal_child/reproductive_health/scasmm.aspx
Haemostatic management of obstetric haemorrhage
R. E. Collis and P. W. Collins *Anaesthesia* 2015, **70** (Suppl. 1), 78–86
<http://onlinelibrary.wiley.com/doi/10.1111/anae.12913/abstract>

Issie.gardner@UHBristol.nhs.uk