PROMPT

PRactical Obstetric Multi-Professional Training

Course Manual

North American Edition

North American Edition edited by Carl P. Weiner, MD

Based on the UK Edition edited by

Cathy Winter, Jo Crofts, Chris Laxton, Sonia Barnfield and Tim Draycott

CAMBRIDGE Medicine

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Practical locally based training for obstetric emergencies

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- All researchers, facilitators and participants of the SaFE Study (Department of Health, UK)
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PROMPT training is endorsed by:

The Royal College of Midwives

Royal College of Obstetricians and Gynaecologists

Bringing to life the best in women's health care

Obstetric Anaesthetists' Association

List of abbreviations and terms

ABC	airway, breathing, circulation
ABCDE	airway, breathing, circulation, displacement, exposure
ACLS	advanced cardiac life support
AED	automated external defibrillator
ALT	alanine aminotransferase
APH	antepartum hemorrhage
aPTT	activated partial thromboplastin time
AST	aspartate aminotransferase
BP	blood pressure
bpm	beats/minute
BUN	blood urea nitrogen
Ca^{2+}	calcium
CAB	circulation, airway, breathing
CBC	complete blood count
CESDI	Confidential Enquiry into Stillbirths and Deaths in Infancy
CMACE	Centre for Maternal and Child Enquiries
CNST	Clinical Negligence Scheme for Trusts
CO_2	carbon dioxide
CPR	cardiopulmonary resuscitation
CT	computed tomography
CVA	cerebrovascular accident
DIC	disseminated intravascular coagulation
ECV	external cephalic version
EFM	electronic fetal heart rate monitoring
EKG	electrocardiogram

FFP	fresh frozen plasma
FHR	fetal heart rate
HELLP syndrome	hemolysis, elevated liver enzymes, and low platelets
HIE	hypoxic ischemic encephalopathy
HIV	human immunodeficiency virus
ICU	intensive care unit
IM	intramuscular
IV	intravenous
K^+	potassium
LFT	liver function test
LMA	laryngeal mask airway
MBRRACE-UK	Mothers and Babies: Reducing Risk through Audits and Confidential Enquiries in the UK
MOEWS	modified obstetric early warning score
MRI	magnetic resonance imaging
Na^+	sodium
NICE	National Institute for Health and Care Excellence
NICHD	National Institute of Child Health and Human Development
NPSA	National Patient Safety Agency
$PaCO_2$	arterial partial pressure of carbon dioxide
PaO_2	arterial partial pressure of oxygen
PEA	pulseless electrical activity
PPH	postpartum hemorrhage
PROMPT	Practical Obstetric Multi-professional Training
SBAR	situation, background, assessment, and recommendation/response
VBAC	vaginal birth after cesarean
VF	ventricular fibrillation
VT	ventricular tachycardia
WBC	white blood cell count
WOMAN trial	World Maternal Antifibrinolytic trial

Foreword to the first edition

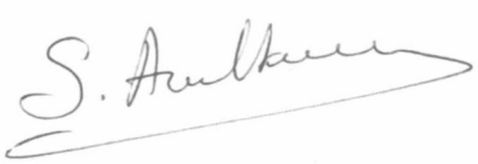
The world's attention is on the Millennium Development Goals (MDGs). MDG 4 aims to reduce child mortality, of which 50% are newborns, and MDG 5 aims to reduce maternal mortality. Pregnancy, labor, and birth are in the most part safe, but some births are not as safe as they could or should be.

The research of the PROMPT Maternity Foundation and its members has confirmed that leadership and multi-professional teamworking, together with the appropriate knowledge and clinical skills, are essential to provide the best care for the mother and the fetus/newborn and thus to achieve MDGs 4 and 5. PROMPT provides just such training and has been associated with improvements in perinatal outcomes.

The PROMPT training package consists of a "Course in a Box," which includes a Course Manual, a Trainer's Manual, and a CD-ROM of lectures and videos. It provides course materials to enable local staff to run "in-house" multi-professional obstetric emergencies courses in their own maternity units or other local settings.

The training package is written by a team of expert researchers who have many years of experience of conducting PROMPT training both locally and around the world. The evaluation of the effectiveness of the training with regard to its associated improvements in clinical outcomes is a priority of the PROMPT team. This scientific evidence is the hallmark of PROMPT.

Improving safety and quality by better knowledge, skills, teamwork, and leadership is our responsibility. I am sure those who attend the PROMPT training program and use the PROMPT materials will be able to deliver safe, high-quality care.



Sir Sabaratnam Arulkumaran,
President, International Federation of
Gynecology and Obstetrics

September 2015

Contents

Module 1
Teamworking (human factors)

Key learning objectives

- Understand the importance of good teamworking.
- Understand that effective communication is vital in emergency situations.
- Understand the importance of stating the problem early at the outset of the communication.
- Appreciate the different roles and responsibilities of members comprising a multi-professional team.
- Understand the importance of shared decision making within the team.
- Recognize the value of situational awareness – the ability to "stand back and take a broader view" in an emergency.

Introduction

Severe maternal morbidity in North America continues to occur and, in fact, has increased in the United States since the late 1990s. Obstetric emergencies are unpredictable and sudden. Successful management requires a rapid and coordinated response by an often ad hoc multi-professional team. The need to provide training for clinicians in team coordination and communication has been repeatedly identified as a safety priority.

Although maternal deaths are the traditional indicator of maternal health outcomes, they are but the "tip of the iceberg." For every death, there are many women who have significant complications of pregnancy, labor, and delivery. Moreover, the most severe complications, such as acute renal

failure, cardiac events, thromboembolism, and hemorrhage have increased dramatically in recent years.[1] Compared to prior years, the US pregnancy-related mortality ratio increased 2006 to 2010 as did the contribution of cardiovascular conditions and infection. More than 3,300 women died during that five-year period in association with pregnancy, placing the United States 60th in the world ranking for maternal deaths. The increasing contribution of chronic diseases to pregnancy-related mortality suggests a change in risk profile of the pregnant population.[2]

Some of the most granular information on adverse obstetric outcomes comes from other industrialized countries where organized review programs have operated for decades. Arguably the most comprehensive reviews are conducted in Great Britain. The most recent Centre for Maternal and Child Enquiries (CMACE) review noted 70% of direct maternal deaths were potentially preventable with better care;[3] a lack of multi-professional team working and communication failures were once again identified as contributory factors.[4,5] Prior Confidential Enquiries into Maternal Deaths identified poor communication and poor teamworking as major contributors to fetal and neonatal mortality.[6,7] And, in December 2014, MBRRACE concluded that in 52% of deaths, improvements in care may have made a difference. They make specific reference to failures in communication and teamwork.[8] Based on these and other reviews, numerous professional organizations and government panels have recommended obstetric emergencies training include teamworking.

Though much of the available literature is derived from UK studies, there is no reason to think that North America is any different. The 2004 Joint Commission Sentinel Alert Issue #30 reported on the root cause analysis of 71 sentinel events (61 deaths, 10 with severe morbidities). They identified problems with communication in 72% of cases, the safety culture in 55%, staff competency in 47%, and orientation and training in 40%.[9] They recommended all obstetrical healthcare organizations conduct:

- team training in perinatal areas to teach staff to work together and communicate more effectively
- clinical drills to help staff prepare for high-risk events
- debriefings to evaluate team performance.

In the UK, the Clinical Negligence Scheme for Trusts (CNST) Maternity Clinical Risk Management Standards (national negligence insurance) mandated there be a systematic process in maternity units ensuring multi-professional drill training for all relevant obstetric staff.[10]

Definitions

Teamwork is the combined, effective action of a group working towards a common goal. It requires that individuals with differing roles communicate effectively and work together in a coordinated fashion to achieve a successful outcome.

Teamwork training

Conventional healthcare training has typically focused on specific, technically skilled tasks. Yet, with the increasingly multi-professional nature of healthcare, a continued focus on individual knowledge, technical skills, and attitude may be inadequate.[11] Multi-professional team training for obstetric emergencies is associated with improved performance,[12] improved safety attitudes,[13] and improved perinatal outcomes.[14,15,16]

Teamwork training recognizes that people make fewer errors when they work in effective teams. Each member of the team better understands their responsibilities when processes are planned and standardized, with team members "looking out" for one another and correcting errors before they cause an accident.[17] This cannot occur when every team member has "their own way" of proceeding no matter how sound it may be.

There is also evidence that, even when training is conducted in multi-professional teams, some teams possess characteristics that make them more efficient than others, and they are better able to achieve good outcomes by performing key actions in a timely manner. These characteristics are not explained by differences in knowledge or skill,[8] emphasizing the need to include other aspects of teamworking to achieve optimal training outcomes.

Improvements in outcomes

As already mentioned, current evidence supports training for obstetric emergencies in multi-professional teams, the strongest evidence being the improved obstetric and perinatal outcomes after clinical training with integrated teamwork training.[18] However, not all training is equal, and some training programs have actually increased rates of poor perinatal outcomes rather than improving them.[19] Further, teamwork training conducted remotely from the daily practice site has not proven effective in obstetrics.[20,21]

The key features of training programs associated with improvements in perinatal outcome are:[14,17]

- training is conducted in-house
- 100% of healthcare staff that work in an obstetric unit train regularly
- all staff train together in teams consisting of the same professionals who normally work together and incorporate teamwork principles into clinical training scenarios
- system changes are introduced, reflecting feedback provided by staff after participating in the training.

In-house training appears the most efficient and cost-effective means of training all staff in an institution. In-house training also allows the team to identify unique local issues that can be used as a driver for system change.[10,14,22] Moreover, there is evidence that local training is the most effective way of improving outcomes.[23]

Finally, it appears the most efficient obstetric teams recognize and state verbally the emergency earlier, and have incorporated this critical task using closed-loop communication (task clearly and loudly delegated, accepted, executed, and completion acknowledged). For example, such teams administer magnesium sulfate within 10 minutes after an eclamptic seizure, have significantly fewer exits from the labor room, and use structured communication.[24] It is vital that such communication skills are integrated into clinical training.

Communication

Communication is the transfer of information and the sharing of meaning. Often, the purpose of communication is to clarify or acknowledge the receipt of the information. Since communication is frequently impaired under stress, it is important to learn techniques that increase awareness and help overcome this limitation.

There are five requirements for effective communication and efficient team performance:[25,26]

1. **FORMULATED**
   Give a clear message. It should be succinct and not rambling. SBAR (Situation, Background, Assessment, and Recommendation/response) is a useful acronym for formulating messages and handing over information[20] and is used almost naturally by the most effective obstetric teams.[9,20] For example:

   > Nurse Gulliver reports: "Jane Doe is septic (S). She is 33 weeks gestation with preterm, premature rupture of membranes

> (PPROM) a week ago (B). She is in pain, hypotensive, and tachycardic. Her score is 3 on the modified obstetric early warning score (MOEWS) chart (A). I need help now. Please contact. . .. .(R)."

The use of MOEWS will be addressed in several subsequent modules. Figure 1.1 is an example of a maternal SBAR form that may be used when handing over information.

2. ADDRESSED TO SPECIFIC INDIVIDUALS (DELEGATED)

Use names of staff and make eye contact. Assign appropriate tasks to an identified person.

> "Liz and Susan (labor nurses), please get Mrs. Jones into the McRoberts' position."

> "Diane (labor nursing assistant), please record the times and actions as they are called out. Thanks."

3. DELIVERED

Messages are sent clearly, concisely, and calmly. When the emergency team arrives in your room, say:

> "Susan Smith is having a postpartum hemorrhage. She has lost about a liter of blood. Her placenta delivered spontaneously and appeared complete. There was no episiotomy and her perineum is intact. She has a liter of normal saline with 40 units of oxytocin running wide open but her uterus still feels soft."

rather than:

> "Oh wow, Susan has just had a really big baby. She has oxytocin running but she is bleeding, really bleeding. Can someone please help me?"

4. ACKNOWLEDGED

Adequate volume used and repeated back:

> "Do you want to give methergine intramuscularly now?"