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Labor Ward Drills

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INTRODUCTION

As massive obstetric hemorrhage is the leading cause of maternal mortality worldwide and a major contributor to maternal morbidity, this subject deserves center stage in the training of midwifery and obstetric staff. That this training need is global is highlighted by instances of substandard care with deaths as a result of postpartum hemorrhage (PPH) in recent UK confidential reports (CEMACH)[1]. Although much knowledge can be gained at the bedside, practical teaching with a structured approach to this unique life-threatening emergency provides a sense of security and preparedness that cannot be obtained in any other manner. Several well-established courses focus on practical emergency teaching, and further information is available through the websites of many professional organizations. Some of the courses run in the UK and abroad are listed in Addendum A at the end of this chapter. These courses present a structured approach to resuscitation with skills, drills and scenarios taught and applied to the seriously ill patient. As good as such courses may be, however, they cannot begin to train everyone in all things, and there remains a need for strong local supplementation in the form of multidisciplinary training. Indeed, the latter has been shown to be effective in improving knowledge[2,3] and clinical outcomes[4,5] (see Chapters 40 and 41).

The recipe for successful local training is not simple and involves a local commitment with incentives to train, multiprofessional training of all staff, teamwork training combined with clinical teaching and use of high fidelity models, but it works[4,5]. Currently multidisciplinary emergency drills and scenarios are a requirement for clinical negligence scheme for trusts (CNST) ratings, a factor which promotes their establishment within UK maternity departments.

It is axiomatic that all functioning obstetric units possess a multidisciplinary massive hemorrhage protocol, which should be updated and rehearsed regularly. Running these sessions as a local drill helps to test the systems in place to deal with obstetric hemorrhage as well as the clinical staff's knowledge of these systems[6], thus making them particularly useful to local staff. Clinical scenario and skills training add detail and depth to this training, but efficiency in the system is an essential prerequisite to effective care. This chapter describes how various practical training techniques (drills, skills and scenarios) work and how such programs can be set up locally.

GENERAL PRINCIPLES OF ADULT EDUCATION

Adult learning

When adults approach the process of learning something new, they often are not satisfied with the acquisition of new facts alone, but also wish to understand and be able to apply the knowledge they acquire. Three different processes are involved in adult learning, all of which are complementary and can be featured in practical teaching sessions.

(1) *Visual* Visual learning may occur through reading in which the reader develops his/her mental picture of a situation, but it is greatly enhanced by watching a person or people doing the process of interest. Being able to recall the scene and actions that were taken enables one to better carry them out when a similar situation presents itself.

(2) *Auditory* In addition to listening, the process of auditory learning includes dialogue, questions and discussions with others with similar interests and knowledge.

(3) *Kinesthetic* Kinesthetic learning involves obtaining knowledge through hands-on practice and role play. Hands-on practice is especially useful for practical skills, whereas role play encourages the individual to work logically through a sequence of events in a clinical scenario.

All three forms of learning are variably suited to different educational objectives. For example, learning to tie a knot can be visualized and explained, but one needs to do it to finally obtain the skill. Of importance, different individuals tend to gain more from one approach compared with another: some prefer watching what is going on, others benefit most from open discussion and feedback, and still others relish the challenge of being the doers in the practical teaching demonstration. Finally, some individuals utilize all three learning techniques to gain new knowledge. Appreciating these differences and staying sensitive to the particular needs of those being taught helps keep practical teaching fun and effective while, at the same

time, avoiding what can be extremely stressful for some individuals.

Practical teaching

The same preparations should be made whether teaching skills, drills or scenarios are to be used (see below).

Knowledge

A sound knowledge base is required before practical teaching can be undertaken successfully. An initial lecture/workshop/discussion should be organized if staff are unfamiliar with practical teaching or if new material is to be taught, as this allows staff to prepare themselves. It also helps reinforce the idea that practical teaching is an opportunity to put what one knows into practice.

Environment

A suitable location should be found that is conducive to the teaching that has been planned. The layout of the room should allow those involved to access the patient (if the teaching is patient oriented) and those watching to see clearly. Heating and ventilation should be considered, but acoustics are vital and can sometimes conflict (e.g. noise from an open window). When teaching about obstetric hemorrhage, a delivery room or an operating theater makes for a very realistic teaching environment, but it occasionally conflicts with clinical needs. To avoid this, one can plan impromptu teaching when the delivery suite is quiet. Impromptu or 'unannounced' teaching also is good for testing how the systems are working (i.e. drills), but, as it does not allow prior planning in terms of who or how many people can be taught, it may be less useful when running clinical scenarios. Another alternative is to consider reducing elective surgery to facilitate training in an operating theater at a given time, remembering, of course, that labor ward workloads are totally unpredictable and a back-up teaching location needs to be available (for example, a seminar room or antenatal classroom).

Setting the tone

The instructor should give a general explanation at the beginning of the teaching session in order to establish the mood and motivate the learners by outlining the usefulness of the content. A simple introduction is all that is required. For example, 'Obstetric hemorrhage is the leading cause of maternal death globally, and today we are going to run through a simulated case of placental abruption. The aim is for you to consolidate and apply your knowledge in this area, a process which should assist you when you face a similar situation in a real emergency'. At this stage, it also may be useful to introduce the clinical problem in the context of recent events either locally or something that may have been reported in the lay press.

The specific objectives of the session should then be explained along with what is expected of everyone in terms of who is going to do what, and whether questions can be asked throughout or be kept till the end. It is extremely useful to allow questioning throughout, as many people will forget if asked to wait till the end. However, this process can spoil the momentum of a scenario and role play session and must be judged anew in each session.

Dialogue

The actual 'doing' in practical teaching and role play works through the simulation that come from starting from very specific instructions. Progress can vary according to what the learner does, and the instructor needs to stay alert and flexible in order to remain in control, to cover all intended teaching points and to guide the session to an appropriate conclusion.

Feedback

This is sometimes known as critique or debriefing and is an essential part of the learning process as it promotes retention of important points. A number of techniques can be used, but the main idea is to identify and promote the good (salient) points (remembering others in the teaching group may not have known these beforehand) and to identify in a sensitive fashion, any deficiencies (lack of knowledge or errors).

One form of systematic feedback, described by Pendleton and known as Pendleton's rules[7], comprises four stages: the learner says what she/he did well; then what she/he could improve upon; this is followed by the trainer stating what the learner did well; followed by what could be improved upon. Allowing the learner to comment first provides the instructor an opportunity to assess the candidate's insight into her or his own ability and behavior. The instructor then has the opportunity to highlight both good practice and areas for improvement not already covered by the learner in order to stress and reinforce learning points to all present.

Another method of feedback involves debriefing as a learning conversation. This is less rigid in style compared with the above and involves:

(1) Making an opening gambit (individualized start to the conversation depending on how things went, such as 'That seemed to go well, what do you think?' or 'That was rather difficult, let's see if we can work out what was going on' etc.);

(2) Jointly exploring any issues that emerge (listening and responding, and involving the whole group to widen the conversation as needed);

(3) Share thoughts of whole group and the instructor considering the learning of the whole group, while being careful not to overload the practice candidate.

Closure

Bearing in mind that adults need to understand something before they change their behavior, it is crucial that questions and discussion be encouraged. A summary of the key learning points from the session should then be provided, so that everyone leaves the teaching/learning with a clear message of the most important issues.

DRILLS, SKILLS AND SCENARIOS

These three styles of teaching differ in their aims. Each requires and tests different skills and knowledge, the features of which are summarized in Table 1, together with examples of suitable teaching material.

Drills

These are practice or 'dummy' runs and are comparable to fire practices in testing local systems. Running a drill not only allows local scrutiny (i.e. what actually happens when the alarm is put out), but also can be a very effective test of local arrangements and services as well as staff knowledge of them.

Preparations for a drill

When running drills, the staff should be faced with the drill in a normal clinical area, unprepared, in order to receive a realistic idea of what would happen in a true situation. Clearly, a drill should not conflict with patient care, and timing must depend to some extent on existing workload. The lead clinician for the teaching session should, however, have informed the lead midwife and, in the case of an obstetric hemorrhage, the transfusion hematologist and other necessary individuals, such as transportation staff. This is not only as a matter of courtesy, but also to plan timings in order to avoid clashes of interests. The transfusion hematologist may prepare spare serum for grouping and make empty blood bags available for the 'dummy run'.

Running the drill

Figure 1 illustrates an example of an assessment sheet for a massive obstetric hemorrhage drill, suggesting things that can usefully be monitored including:

- Who responds to the initial emergency buzzer?

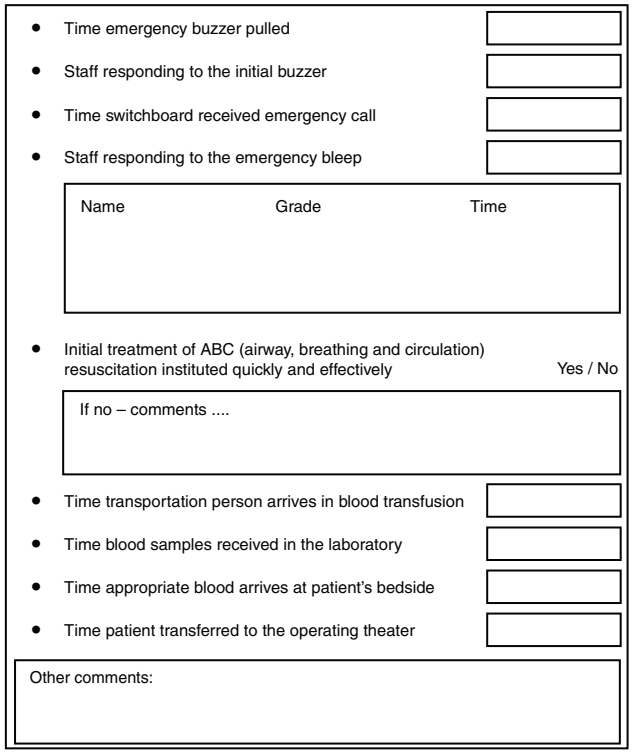

Figure 1 An assessment sheet for massive obstetric hemorrhage drill. This assessment sheet can be expanded to include the response times for individual doctors, and their reactions and actions

Table 1 Key features and differences in skills, drills and scenario teaching

	Skill	*Drill*	*Scenario*
Definition	Acquisition of a skill	A chain of events in response to a problem	Improvized clinical role play
Aim of the teaching	Ensure correct technique	Test the local emergency system	Apply and practice clinical care in a improvized set-up
Teaching environment	Seminar room	Throughout hospital in day-to-day environment	Seminar room, operating theater or delivery room
Examples of things suitable for teaching and testing in relation to obstetric hemorrhage	Brace suture Rusch balloon Aortocaval compression CPR Bimanual uterine compression IV cut down	Response to the emergency massive obstetric hemorrhage call	APH – abruption – placental previa PPH – atony – trauma – RPOC
Skill mix	Doctors and midwives	All delivery suite staff and laboratory staff, hematologists and porters	Multidisciplinary: obstetricians, midwives, anesthetists, pediatricians

CPR, cardiopulmonary resuscitation; APH, antepartum hemorrhage; PPH, postpartum hemorrhage; RPOC, retained products of conception

- Is the appropriate emergency call put out?
- How effective is the emergency bleeping system?
- Is transportation alerted and respond?
- Do transfusion staff receive any communication?
- How quickly does blood arrive at the bedside?
- How quickly is the patient transferred to the operating theater?
- When does the anesthetist/consultant/hematologist arrive?

Such analyses can help to illustrate system failures and modify local policies. The identification of problems stimulates and informs development of appropriate guidelines. Clarifying the roles of diverse staff and streamlining activity can also improve future responses and improve care. Such developments can be monitored at future drills and improvements in the system should be fed back to staff. Having run drills for obstetric hemorrhage at Queen Charlotte's and Chelsea Hospital for many years, the following are examples of problems identified and system changes made in response.

Communication problems and how they were addressed As identified in numerous Confidential Enquiries, problems in communication often hamper emergency responses. We found that we struggled with instructions from clinicians to blood transfusion staff regarding what was needed and when it was needed: Was it possible to wait for group-compatible blood or even cross-matched blood? How long to wait to have blood at the bedside? What clotting products were needed when? These are some examples of questions that are often not clarified 'over the phone'.

It soon became obvious that this job was normally delegated to someone very junior on the delivery suite and misunderstandings were common.

Our response was first, to install a red phone in the obstetric operating theater based on the delivery suite that linked exclusively with a red phone in the transfusion laboratory. This enabled blood requirements to be discussed by the anesthetist directly with transfusion staff without having to leave the patient to go outside the theater. Second, we then identified time limits for transfusing blood at the bedside (for example, 'We need 4 units of blood within 30 minutes'), rather than discussing whether to wait for blood to be cross-matched or not. This left the laboratory in no doubt of the clinical needs and has minimized delay in blood arriving at the bedside when needed.

Problems with transportation and how they were addressed In the past, the transportation person arrived in the delivery suite when a hemorrhage call was put out to take blood samples to the laboratory for grouping/cross-matching; however, this was deemed inefficient and delayed blood being brought to the bedside in the most urgent cases.

Our solution was first to change the process so that the transportation person went straight to the laboratory in readiness for the urgent need of collecting O-negative blood. Second, a pneumatic chute was installed for samples to be sent to the laboratory which has also helped in this context. If the clinical condition of the patient can wait for group-compatible blood, the transportation person stays in the transfusion laboratory until the sample has arrived by chute and has been grouped, ultimately bringing the appropriate blood to the delivery suite. This type of thinking is especially relevant in large modern hospitals where clinical and laboratory services are not only on different floors but in different, often widely separated, buildings.

Skills

The teaching of practical skills is of great importance in obstetric hemorrhage teaching sessions. The need for specific teaching often becomes apparent during the discussion and questioning when running a scenario. Things may have been mentioned which are not fully understood, and such circumstances illustrate how important it is for scenario teaching to be constructive (see below for examples). Staff must feel able to question what something is or how it is done. In obstetric hemorrhage, the following skills may be highlighted and need to be taught:

- Medical skills
  - bimanual uterine compression
  - aortic compression
  - cardiopulmonary resuscitation
- Surgical skills
  - insertion of an inflatable uterine balloon
  - insertion of a Brace suture
  - intravenous cut-down for venous access.

Preparation for skills teaching

Teaching any practical skill that may be required in an emergency, should be executed slowly and calmly, giving ample time for reflection, questions and practice. The use of manikins and surgical aids works well, but one must remember to point out the differences to be expected when working *in vivo* (such as the need to keep an inflatable uterine balloon well into the cavity while inflating it, or how to deal with the tendency for the brace suture to slip off the uterine cornual areas ('the shoulders') while pulling it tight).

Running the skills teaching

This teaching process is best performed in four steps:

Step 1 The instructor demonstrates the skill in silence. The skill is performed at normal speed so that the candidates appreciate the ultimate aim.

Step 2 The instructor then demonstrates the skill slowly with a commentary. Providing the commentary and breaking the technique down adds

understanding to the process and can highlight points of caution and safety as well as adding helpful hints.

Step 3 The learner provides the commentary, which the instructor follows while demonstrating the skill for the third time. The instructor must be careful not to assume knowledge on the learner's part during this process and stop in mid-flow if errors are made. This step is crucial in terms of surgical safety, as the instructor can tell what the learner understands. Any errors or omissions can be addressed immediately. This step may need to be repeated.

Step 4 Once step 3 is completed satisfactorily, the learner is allowed to perform the skill while providing a commentary under direct supervision.

Scenario teaching

These practical teaching sessions describe a clinical picture and facilitate role play to manage the problem. The aim of such teaching is to demonstrate appropriate clinical behavior, including not only whether an individual has the requisite level of clinical knowledge and how it is applied, but also how individuals work together as a team and communicate. Such interactions can be complex and are worth describing further before illustrating massive hemorrhage scenarios.

Teamwork

The ability to work together as a team is absolutely requisite to good clinical care. Individuals possess differing levels of expertise, and the group's ability to carry out specific tasks depends upon the interpersonal skills of all team members. Watching a group working together can highlight its problems and help focus remedial action in terms of teamwork (or lack thereof) and occasionally individual behavior.

Every team needs a leader, and deciding who the leader is to be can sometimes be difficult. It is important to recognize that the team leader need not be the most senior person and, as the scenario develops, sometimes the leader will need to change. In any event, the leader should have appropriate knowledge and skills, be a good communicator and motivator, be able to maintain situation awareness (see the whole picture) and distribute the workload. At the same time, watching staff adapt to each other can be hugely instructive, and discussing these issues afterwards can help them understand each other, as well as individual needs and stresses.

Communication

The process of asking for and providing information and of listening to what other people are trying to say should be simple. It clearly is not, however, and is repeatedly raised as a problem area in Confidential Mortality Reports. In the Confidential Enquiry Report of 1997–1999[6], the greatest (and recurrent) cause of substandard care in maternal deaths was failure of communication and team working between professionals. When running practical teaching sessions, communication within the team can be witnessed and discussed afterwards. Generally speaking, when dealing with any emergency, single precise commands should be addressed to specific individuals.

Voices should not be raised and an air of calm control ideally should be apparent. Unfortunately, some individuals tend to become overexcited, and noise levels can build up in emergency situations, all of which can affect everyone's behavior, as well as make it exceedingly difficult to hear what is being said without resorting to shouting. Pointing out such behavioral features under stress during mock emergencies can only help to raise awareness.

Preparing for scenario teaching

When preparing for role play, it is important to try to make things as realistic as possible.

The patient Depending on the subject, either a manikin or a live person is appropriate. Manikins tend to be good for collapse and cardiopulmonary resuscitation, whereas live models are better when responses are needed (for example, the model can pretend to fit in eclampsia, or can groan and describe pain with an abruption). Either can suit massive obstetric hemorrhage. However, the advantage of a live model is that everyone usually learns a great deal with regard to how all levels of staff communicate with a patient in such emergencies

The equipment Running clinical scenarios is more realistic if appropriate equipment is available. This may be quite simple (e.g. lateral tilt and oxygen, but using it helps to illustrate what important features have been dealt with and what omissions have occurred (e.g. intravenous access or urinary catheter). Table 2 suggests a minimum equipment list for a massive hemorrhage scenario.

Table 2 Basic equipment list for practical obstetric hemorrhage training

Airway and breathing
Guedel airway
Oxygen mask with bag and tubing
Stethoscope
Circulatory
Wedge (to provide lateral tilt for the pelvis)
Tape
Two large-bore intravenous cannulae (14 F)
20-ml syringe
Blood tubes for full blood count (FBC), cross-match (XM), clotting studies
2-liter bags of crystalloid run through administration sets
Catheter
Specific equipment for massive obstetric hemorrhage
Intrauterine inflatable balloon and bladder syringe

Running the scenario

Who should be involved? It is often difficult to decide who should be involved in the role play and who is better left to watch quietly. If staff members are inexperienced with scenario teaching, it is best initially to ask for volunteers. Lack of volunteers may be due to simple factors such as being shy, but it may result from fear of ignorance being exposed or raising issues of competency. It is for this reason that didactic teaching is absolutely required prior to running scenario training, so that the theoretical material has already been covered. If this has taken place, those previously unsure of the theory behind the problem can build on their newly acquired knowledge in a practical way. Indeed, once members of staff become used to this method of teaching, more will come forward. Occasionally, someone may need to be invited to join in, but this should be done sensitively and with support.

Give people defined roles People need to be given a defined role and told what they can or cannot expect in terms of back-up. For example, 'You are the senior house officer who has just answered the emergency buzzer to this multiparous patient. She has just bled briskly following spontaneous vaginal delivery. The midwife is here, but all other staff are busy with an emergency in theater and you should not expect help for at least 10 minutes. Please carry on as you would in real life. I will give you any observations you request.'

Keeping the scenario going The patient can be primed to give certain responses, and monitors can be prepared with readings (cardiotocograph paper sticking out of a machine/blood pressure recordings on a monitor, etc.), but it is the instructor's role to keep the scenario flowing and give as much or as little information as is requested. The scenario needs to progress, however, and gentle encouragement and occasional subtle prompts can assist the learner in achieving an understanding of the key treatment points. The aim of running scenarios is not to demonstrate ignorance on the part of one or more individuals, but to empower them to apply their knowledge in a logical and timely manner. Depending on the performance and ability of the candidate(s), the scenario can be resolved early or become more complex. This should be anticipated by the instructor well in advance. If the candidate is becoming stressed, but has done all the basic key treatment points, then the scenario can resolve and the candidate can be congratulated. If the key treatment points have not been achieved, on the other hand, then help can be at hand in the form of a registrar or consultant arriving to help. If the learner is doing a fantastic job, then the scenario can progress and more complex features can be added.

Prompting This can be difficult if it is to be done sensitively without demoralizing or embarrassing the learner; in reality, it requires skill and tact to make this form of teaching constructive. The following examples may be useful in the massive hemorrhage situation:

- Lateral tilt can be forgotten in the pregnant woman and a prompt asking whether there is 'anything else that could improve the circulation?' may jog a response
- If the candidate has not registered or responded to worrying observations such as a tachycardia or hypotension then these can be repeated and made worse, e.g. 'the tachycardia has now increased to xxx or the blood pressure is now yy/zz or unrecordable'
- Comment that uncross-matched blood is now available if staff have lost their train of thought and had already mentioned they would request blood but then forgotten about it
- Providing the patient's physiological responses can slow down/speed up the action as required. For example, once intravenous fluids have commenced, inform the candidate that the blood pressure is improving but that vaginal bleeding is still brisk. This will encourage the candidate to move on to assess the cause
- If the candidate moves away from the intravenous access without taking any bloods for laboratory investigation, the instructor may slow things down by asking if she/he would do anything else before moving on to assess the cause of the bleeding. The candidate could also be prompted with an empty syringe and blood tubes, if necessary, to make a teaching point.

Drawing things to a logical conclusion When the scenario has run its course, all people who have been involved in the role play should be congratulated and thanked for their participation, and then encouraged to engage in the feedback process as described above. Questions and discussion should then be encouraged before closure, with particular emphasis given to the key treatment points.

Examples of possible massive obstetric hemorrhage scenarios are provided, together with their key treatment points in Addenda B and C.

SUMMARY

Setting up practical teaching locally improves local processes, builds on teamwork, aids with communication, and improves clinical knowledge and its application in the emergency situation. It is best kept simple and, because it can be stressful to those involved in role play, it must be introduced sensitively and conducted within an encouraging atmosphere. Staff need to know what style of teaching will be used, and what it aims to accomplish. Advertising the planned content of the session in advance will encourage staff to prepare and capitalize on enthusiasm and learning. Good luck.

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Further reading

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Addendum A: Websites for practical emergency training

ALSO (advanced life support organisation) at www.also.org.uk
MOET (Managing Obstetric Emergencies and Trauma) at www.moet.org.uk
RCOG Essential Obstetric Care and Newborn Care Course at www.rcog.org.uk/what-we-do/international/partnerships/life-saving-skills
UK based MOSES (Managing obstetric scenarios and emergency simulations) at blsimcentre@bartsandthelondo.nhs.uk

Addendum B: Sample scenario for PPH due to atonic uterus

Instructor's information

This scenario is one of PPH due to uterine atony. You are looking for rapid resuscitation of the woman at the same time as diagnosing and treating the problem (uterine compression, evacuation of clots, administration of uterotonic drugs and checking for trauma). Depending on how the scenario flows you can allow for rapid recovery, or not – if bleeding persists there can be discussion about other causes of hemorrhage and you are looking for an early decision to go to theater for an examination under anesthetic to exclude trauma/retained products.

Candidate information

A 34-year-old grand multipara delivered a healthy baby boy weighing 4.00 kg 40 minutes ago. She had physiological management of her third stage, and the placenta was delivered 10 minutes ago. The midwife has noticed fresh and brisk vaginal bleeding and accosts you as you were walking past the delivery room.

Initial observations

The patient is talking but very pale; pulse 110/min; blood pressure 120/80 mmHg; large volume of blood on bed and floor. Please proceed as you would in real life together with the midwife who called you. I will give you any observations you request. (The candidate can be obstetric or midwifery as either should be able to manage this emergency. If further progress to theater is needed, more senior help can arrive as requested.)

Instructor's notes/Key treatment points to be achieved

- Call for help and initiate the massive obstetric hemorrhage drill
- Recognize that this is a circulatory problem: progress rapidly through airway and breathing and attach face mask for oxygen
- Establish intravenous access
- Send blood for full blood count, cross-match, coagulation and U&Es
- Commence warmed intravenous fluids
- Do clinical examination and diagnose uterine atony
- Administer transabdominal uterine massage
- Administer a uterotonic agent
- Perform a vaginal examination and evacuate clots
- Check for obvious vaginal or cervical lacerations
- Do bimanual uterine compression
- Go through medication cascade logically and give intravenous fluids and blood appropriately
- Consider examination under anesthetic if patient fails to respond and consider other causes of PPH
- Knowledge of surgical techniques to control hemorrhage, i.e. Rüsch balloon, brace suture, etc.

Addendum C: Sample scenario for PPH not due to atony

This scenario is more complex – a precipitate labor with the possibility of a concealed abruption or genital tract trauma. The focus will be on distinguishing between abruption, genital tract trauma and retained products/membranes with/without disseminated intravascular coagulation (DIC). How this scenario will unfold will depend on the learner's experience and ability. You are looking for rapid resuscitation of the woman at the same time as diagnosing and treating the problem (uterine compression, evacuation of clots, administration of uterotonic drugs and checking for trauma). On this occasion bleeding persists and you are looking for an early decision to go to theater for an examination under anesthetic. For a junior trainee you may choose to let them find and repair a vaginal or cervical tear, but for a senior trainee you can take them further with DIC, blood and clotting products, checking for acidosis and need for ventilation, etc.

Candidate information

A 24-year-old primipara is induced at 42 weeks' gestation. She is having intermittent abdominal pain when the prostaglandin is inserted. One hour later she is transferred to the delivery suite in extreme pain and 20 minutes later she delivers a 3.8 kg baby boy rapidly followed by the placenta.

Initial observations

Talking; pulse is 100/min; blood pressure 115/70 mmHg; steady trickle of blood vaginally.

Please proceed as you would in real life and I will give you any observations you request.

Instructor's notes/Key treatment points achieved

- Call for help and institute massive hemorrhage call
- Recognize circulatory problem. Move swiftly through airway and breathing. Administer face mask oxygen
- Insert intravenous access
- Send blood for full blood count, cross match and coagulation screen
- Commence warmed intravenous fluids
- Abdominal examination to confirm uterus well contracted
- Vaginal examination to check for vaginal lacerations
- Transfer to theater for analgesia and examination
- Catheterize
- Full EUA: check vagina, cervix and uterine cavity
- If trauma found – timely repair?
- If products membranes remaining – evacuation performed?
- If DIC – knowledge of blood products, significance of acidosis, need for ITU