Practice makes perfect!

Birth Simulator

3B SIM*one*™







3B SCIENTIFIC® **Birth Simulator SIM*one*™**

...close to reality

No other group of patients prepares themselves for a hospital visit as carefully as parents-to-be. The birth of a child is a very special experience and nobody likes to think about possible complications. Potential problems are however often discussed during antenatal care, while most women only want to deliver by Caesarean section in case of extreme emergency. This is why most prospective parents favour delivery in a clinical environment.

"I want my delivery to be as natural as possible!"

For the first time a birthing simulator gives obstetricians the opportunity to practice an instrumental delivery in a realistic manner - again and again. Through repeated rehearsal a routine is instilled prior to an emergency. It's also a routine for physicians in training which allows them to competently manage unknown situations – and save an unborn child's life sooner or later.













Every birth is different – prepare yourself with 3B SIM*one*™

In case of foetal or maternal risk it is often essential to finish a birthing process as quickly as possible. Other than Caesarean section, the only options for supporting a physiological birth process by means of assisted vaginal delivery are forceps delivery and vacuum extraction.

Forceps or Vacuum?

The application of the forceps is faster than a step-by-step increased vacuum process. The use of forceps is simple and safe if the head is located on the pelvic floor and the sagittal suture does not deviate more than 45° from the straight diameter. Forceps permit active rotation and are advantageous in the case of a deep transverse position. An advantage of vacuum extraction is the ease of placement and therefore, the lower likelihood of material trauma. It is also the instrument of choice during delivery from the mid-pelvis. An excessively forced vacuum extraction can lead to the disconnection of the vacuum cap and therefore strong intracranial-pressure fluctuations in the infant. If the cap disconnects repeatedly, the infant must be delivered using forceps.

Simulate high stress situations – with SIM*one*™

The 3B Scientific® birth simulator gives training in

- **correct use of instruments in assisted vaginal delivery**
- **defining the position of the foetal head in relation to the maternal pelvis**
- **management of birth complications by means of anamnesis, findings and interventions**

The high realism in training with SIM*one*™ is unique

- **because the instruments are used together with application of the natural force to guide the baby along the natural curve of the pelvic axis**
- **because the characteristic sounds due to the breathing and pain of the mother as well as the foetal heartbeat make the situation very lifelike**

Lifelike training in vaginal-operative extraction – the patented birth simulator from 3B Scientific

The birth simulator SIM*one*™ is a model of a female abdomen with a vulva and the ischial spines as landmarks. Inside the model there is a foetal head with a sagittal suture and fontanelles. The monitor above the model displays an exact image of the position and rotation of the foetal head within the maternal pelvis. Furthermore, the CTG and partogram, as well as documentation (history, findings) and interventions, are displayed. Objective determination of the position of the foetal head in relation to the maternal pelvis is now also possible. SIM*one*™ represents the complete clinical course including anamnesis, diagnosis and intervention.

A variety of delivery scenarios are presented and the cardiotocogram and partogram support the assessment of the course of the delivery. The repositioning of the mother, the administration of medication and amniotomy are all interventions that may be used in order to achieve the necessary progress during the delivery. In order for the physicians that are carrying out the procedures to determine their level of proficiency, all the measures taken during the 'delivery' can be reviewed afterwards. The internationality of mothers-to-be and the number of different scenarios are a true reflection of the realities of the delivery room.

Safety during instrument use

The simulator presents the haptics required in order to perform the instrument assisted delivery in a medically correct manner: presentation data, placement of the forceps and extraction, taking care of the head of the infant and the maternal soft tissue. The monitoring software provides information in interactive haptic response to the manipulation of the foetal head in the context of force-feedback. The speed and resistance shown during pulling correspond with a real situation.

Recognising the right moment

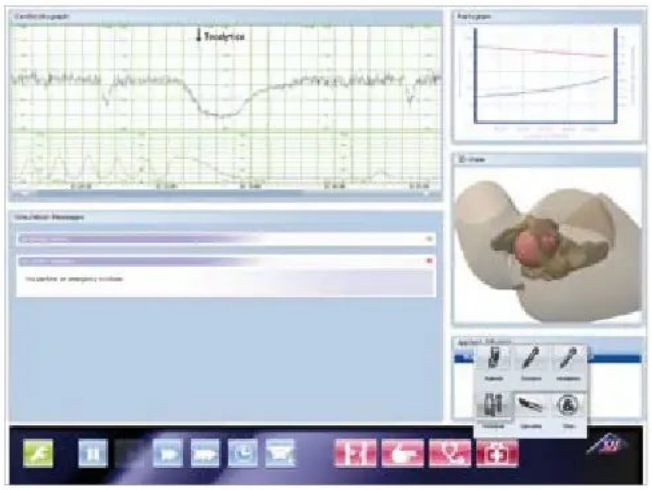
During the delivery scenario, the user of the simulator assesses the course of the delivery and considers all the necessary measures, such as the recognising the correct moment for a forceps delivery. In this context questions concerning indications and conditions are always decisive:

Are the forceps necessary? Are the forceps feasible?

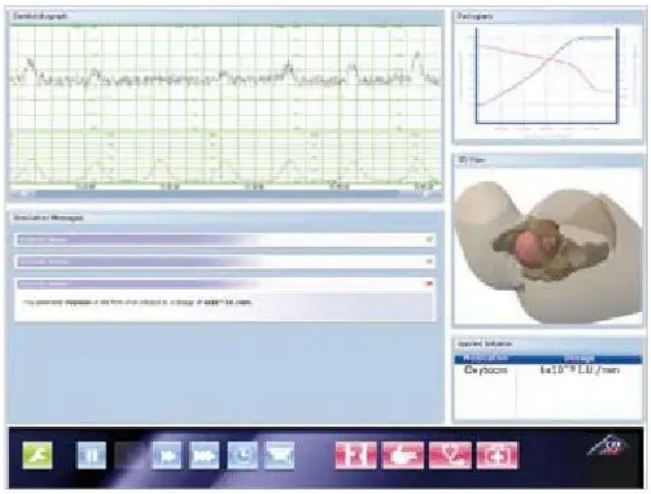
Professional feedback

SIM*one*™ was tested and evaluated by more than 50 doctors with experience in obstetrics. The majority of those questioned (83.0%) stated that the simulator was very highly or highly realistic. Almost all of the participating doctors (96.1%) would recommend other doctors to use SIM*one*™ for obstetric training to prepare for all sorts of complications effectively.*

*Wulf J, Lüdemann C, Lukutin W, Burgkart R: Expert assessment of a high-fidelity audio and force feedback birthing simulator: a questionnaire-based validation study. Proceedings of the 14th Annual Meeting of the Society in Europe for Simulation Applied to Medicine; University of Herfortshire, Hatfield, UK, 19-21 June 2008



Tocolysis for fetal distress



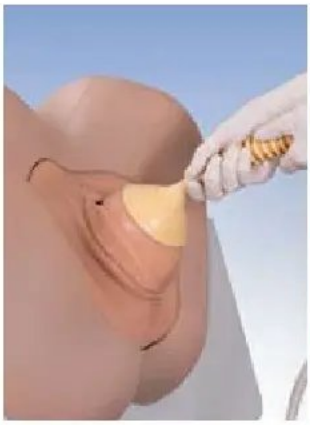
Unprogressive delivery despite the administration of oxytocin

Training methodology conform to the target group

Even if the study content during the teaching of medical specialists in obstetrics and gynaecology includes assisted deliveries, this does not guarantee that during their training, physicians will encounter all possible pathologies. Therefore the better the delivery personnel are trained and the better they can perform in a routine sense, the fewer complications will occur and the more difficult complications can be dealt with. After all, even experienced obstetricians will sometimes encounter situations during deliveries that occur only rarely. SIM*one*™ is the first birth simulator directed to the needs of medical personnel. As a training instrument, it provides various teaching methods.









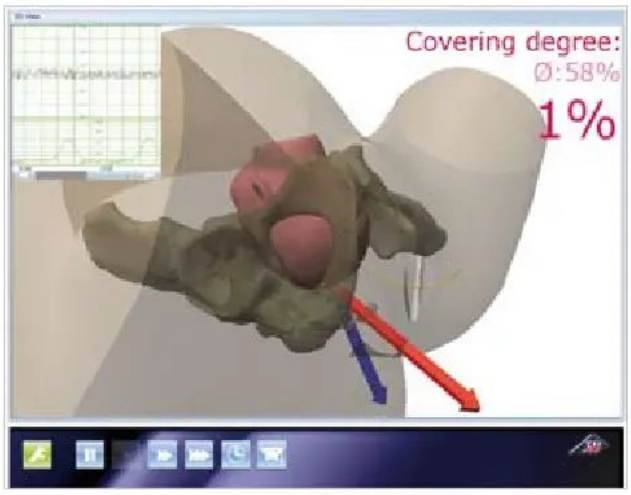
Basic training

Basic training is oriented to model instruction in which the trainer demonstrates each individual process, points out possible errors and allows participants to carry out the processes themselves using the simulator. In this way the participant learns to work with the forceps and the vacuum cup.

Problem Based learning (PBL)

A refresher and special-training course makes use of problem-based learning and simulates what begins as a normal process, during which problems subsequently arise. Here, it is the task of the participant to react quickly and correctly. After the training, participants receive feedback and information on how to correct errors as the simulator can be rewound to the time at which the actions of the participant were below best practice. For this type of teaching, SIM*one*™ offers a wide range of possible deliveries.

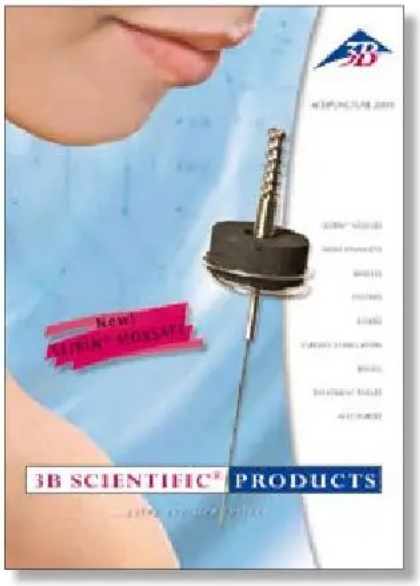
Impressively displayed is the exact image of the position and rotation of the foetal head within the maternal pelvis on the monitor next to the model



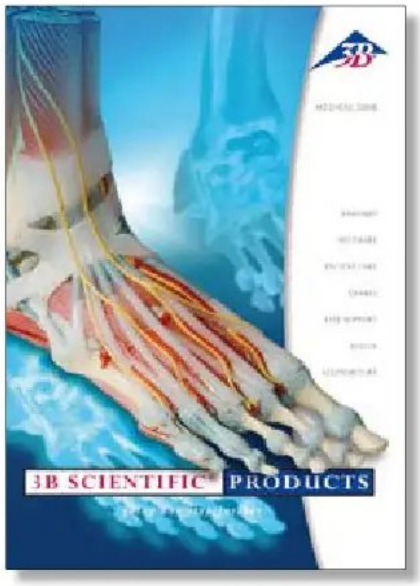
Forceps Extraction



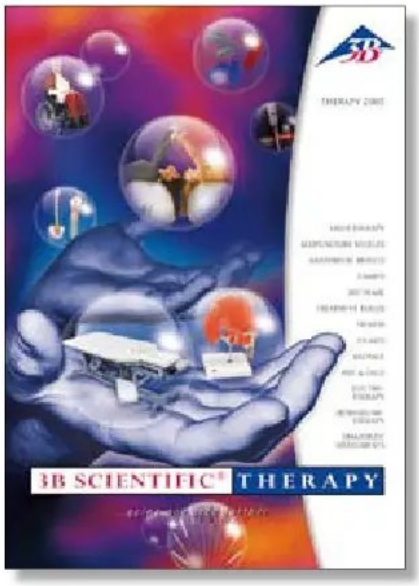
The range of 3B Scientific in the medical field:



Acupuncture



Medical



Therapy

