PROMPT Birthing Simulator Force Monitoring Software User Guide



Limbs & Things

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Overview

Obstetric brachial plexus injury (OBPI) is a serious neonatal complication of shoulder dystocia which may be associated with excessive traction applied during delivery.¹ In recognition of this, the Limbs & Things Force Monitoring System has been developed to create a better awareness amongst obstetric medical staff and trainees of the forces applied to the baby during delivery.

The system consists of an electronic strain gauge within the Force Monitoring Baby linked to a computer via an Interface Unit. On commencing a shoulder dystocia drill the computer program will record and plot the force applied through the baby's neck on a graph, as well as the time taken during the delivery. It also allows each step or 'intervention' of the drill to be documented along the timeline as it is performed. Each drill can be saved to the computer and printed for trainee handouts at the end of a training session. This is an ideal method for assessing the trainee's performance, comparing different sessions conducted over time.

¹ *Risk Factors for Shoulder Dystocia: an engineering study of clinician-applied forces* Allen R, Sorab J, Gonik B. Dept of Mechanical Engineering, University of Delaware, Newark. Obstet Gynecol. 191 Mar; 77 (3) :352-5

Important information - Using the Product

To incorporate this software effectively within a training session you will require three people: an *accoucheur* (trainee), another to hold the baby in the Shoulder Dystocia position during delivery, and a computer operator.

Performance of other scenarios such as normal, breech and instrumental deliveries can be recorded within the same program. Please note that only the use of the timeline and interventions are relevant for these scenarios – the force monitoring only applies to shoulder dystocia drills.

Hardware and software setup

Before running a drill see the quick setup guide in the PROMPT Birthing Simulator Force Monitoring product manual or the instructions on the back of the software case.



1. Running a Drill

To run a drill go to the Window menu and select Show Control Panel

| 📕 PROMPT I | Birthing | Trainer - [Drill-2.drl] |
|----------------|----------|-------------------------|
| 📔 File Edit | Window | Help |
| 🕈 🖻 🖥 | Cas | scade |
| Properties | Tile | Horizontally |
| Created: | nie | vertically |
| Duration: 1m 4 | Sho | w Control Panel |
| Property | Hid | e Properties |

In the **Control Panel** select the appropriate Delivery Scenario from the menu. (When selecting Shoulder Dystocia make sure the **Collect Force Data** box is ticked, otherwise no plot line will be displayed on the graph).

| ontrol Panel | (E |
|----------------------------|---------------------|
| Start | Reset |
| Collect force | data |
| Normal Delivery | ~ |
| Breech | |
| Forceps Normal Delivery | |
| Shoulder Dystoc | ia |
| Third Stage of L | abour |
| Ventouse | on ac crowning |
| Note time | of delivery of head |
| Await rest | itution |
| Check for | nuchal cord |

Click on the **Start** button to start the drill for your chosen Delivery Scenario.



The program is now collecting force data from the baby and displaying the plot line on the graph.

| Properties | × | | | | | | | | | | | |
|----------------|-------|-------|---|------|------|-----|------|------|---|---|--|------|
| treated: | | | | | | | | | - | | | |
| Juration: On C | 6 | | | | | | | | Control Pare | 4 | | 1 |
| roperty | Value | | | | | | | | Step | Recei | | |
| notestreps | 6 | | | | | | | | Collect fo | orce data | | |
| o Title | | | | | | | | | Shoulder D | estocia | ~ | |
| | | 260 - | | | | | | | Call h Call h Gall h Sign Evalu Data Jacker Jacker Gave | or help or non-statogis bert's manoous poble pressure are need for ep iny of posterior iny of posterior of rotation of stato of baby 10 | t Ing Selferty Jane Goodwarp | |
| A197 | | 150 - | | | | | | | | | | |
| | | 100 | 1 | | | | | | | | | |
| | | 0 | | 1.00 | 1:30 | 200 | 2:30 | 3:00 | 3:30 | 4:00 | 4:30 | 5:01 |

The list of Interventions associated with your chosen Delivery Scenario is now active.



To record on the graph when a specific Intervention is performed, click on the required Intervention from the list displayed in the Control Panel.



Each time an Intervention is clicked a colour coded flag will appear on the graph.



Once the drill has been completed click the **Stop** button on the Control Panel



An example of a completed drill:



For ease of viewing you can **Zoom In** and **Zoom Out** of the graph. There is also a **Fit Graph** to screen button to quickly resize the graph.







2. Saving a drill

PROMPT Birthing Trainer - [Drill-1] **PROMPT Birthing** Help File Edit Window E Window File Edit ø Ctrl+N New Open... Ctrl+O Pro 9 Close Ctrl+W Cre Dui operties Save drill Save As... Pro

Save a drill by going to the File menu and selecting Save... or click on the Save drill icon.

Create a folder you wish to save the drill in and then name the drill.

| Save as | | | | | | ? 🔀 | Save as | | | | | ? 🛛 |
|---|---|--------------------|---|----|---|--------|--|---------------|--------------------|---------|-----------|--------|
| Save in: | 🖙 Local Disk | (C:) | ~ | 01 | 1 | 5 | Save in: | C PROMPT | | 💌 G 🗊 🖻 | • | |
| My Recent Documents Desktop My Documents | Documents a Drivers KPCMS Program Files WINDOWS PROMPT | nd Settings S | | | | | My Recent Documents Desktop My Documents My Conputer | Dril-1.dri | | | | |
| | File name: | Drill-1 | | | ~ | Open | | File name: | Dnll-2 | ~ | | Save |
| My Network | Save as type: | Drill file (*.drl) | | | ~ | Cancel | My Network | Save as type: | Drill file (*.drl) | ~ | Ē | Cancel |

To open previously saved drills go to the **File** menu and click on **Open...** or click on the **Open drill** icon.

| File File | Edit Window | Help | |
|-----------|--------------------------------|--------|------|
| 3 | New | Ctrl+N | kan- |
| Pro | Open | Ctrl+O | 1 |
| Cre | Close | Ctrl+W | - |
| | Save | Ctrl+S | |
| Pro | Save As | | |
| | Sector State State State State | | |



To start a brand new drill go to the File menu and click on New ... or click on the New drill icon

| 🖬 PR | OMPT Birthin | g Trainer - [Drill-1] |
|------|-----------------|-----------------------|
| File | Edit Window | v Help |
| | New | Ctrl+N |
| Pro | Open Close | Ctrl+O Ctrl+W |
| Dui | Save Save As | Ctrl+5 |
| - | Save Graph. | |



Saving drill properties

Data relating to the trainee is saved with the graph.

| Property | Value |
|--------------|-------|
| Name | |
| Organisation | |
| Job Title | |
| Drill Number | |

Data is entered in the Value column within the Properties panel. Once the data has been entered save the drill to file (page 6).

| Properties 👱 | | | |
|------------------------------|--------------------|--|--|
| Created: Duration: 1m 46s | | | |
| Property | Value | | |
| Name | J Southern | | |
| Organisation | Southmead Hospital | | |
| Job Title | SPR | | |
| Drill Number | 1 | | |

Additional Properties and Values can be added and saved if required e.g. course title. Additional information can be entered in the **Notes** field at the bottom of the panel.

| Properties | × |
|-----------------------------|--------------------|
| Created: Duration: 1m 46 | s |
| Property | Value |
| Name | J Southern |
| Organisation | Southmead Hospital |
| Job Title | SPR |
| Drill Number | 1 |
| Course | Labour Management |
| | |
| Good first attem | pt 🔼 |

3. Printing a Drill

Drills saved to file can be printed out for reference, or as trainee handouts at the end of the training session. Each printout shows the graph with any Interventions recorded, the Delivery Scenario and any other data entered in the Properties Panel.

| 📕 PR | OMPT Birthing | Trainer - [D | rill-1] | |
|-------------|-----------------|------------------|---------|----------------|
| File | e Edit Window | Help | | |
| Pro | New Open | Ctrl+N Ctrl+O | | APT Birthing T |
| Cre - | Close | Ctrl+W - | | Edit Window H |
| Dui | Save | Ctrl+S | | |
| Pro | Save Graph | - | | |
| Or | Export to CSV f | ile | | s Print |
| Jot Dril | Print | Ctrl+P | | |
| Nol | Print Preview | | 250 - | |
| | Fxit | Alt+F4 | 10000 | |

To print the drill go to the **File** menu and select **Print...** or click on the **Print** icon.

The printout can be previewed by going to the **File** menu and selecting **Print Preview...** or by clicking on the **Print Preview** icon.

| File | Edit Window | w Help | |
|-------------------|--|----------------------------|-----|
| Pro | New Open Close | Ctrl+N Ctrl+O Ctrl+W | |
| iui Irc Jai | Save Save As Save Graph Export to CSV | Ctrl+S / file | |
| lot Dril | Print | Ctrl+P | |
| 21 | Print Preview | Alt+F4 | 250 |



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4. Editing Scenarios

The **Scenario Editor** allows for the addition, deletion and editing of Delivery Scenarios such as Normal Delivery, Breech, and Forceps.

To view the Scenario Editor go to the **Edit** menu and select **Edit scenarios...**

| PROI | MPT | Birthing Trainer - [Drill-1] |
|-----------|------|------------------------------|
| E File | Edit | Window Help |
| 2 🖻 | | Copy Graph Ctrl+Shift+C |
| Propertie | | Edit Scenarios |
| Created: | | Edit Settings |

Select the Delivery Scenario you wish to edit or delete. You can also add a new Delivery Scenario at this stage.

| Sceparios | |
|---|---|
| Scenarios | |
| Breech Forceps Normal Delivery Shoulder Dystocia | Add |
| | Edit |
| Third Stage of Labou | r Delete |
| | and the second se |

The **Add...** button allows you to add new Delivery Scenarios with associated Interventions in the Scenario Properties window.

| cenario: | |
|----------------|--------|
| Interventions: | Add |
| | Edit |
| | Delete |
| | Up |
| | Down |

The **Edit...** button allows you to add, edit, delete or change the order of Interventions in the Scenario Properties window by selecting the Intervention then clicking the relevant action button.

To change the running order of any of the Interventions select the Intervention you wish to move and click the **Up** or **Down** button.

| Scenario: | Ventouse | |
|----------------|-------------------------------|----------|
| Interventions: | Prepare room and equipment | Add |
| | Cervical dilatation | Edit |
| | Station | Delete |
| | Explain procedure | Deletern |
| | Catheterisation | |
| | Application of suction cup | |
| | Check for vaginal entrapment | |
| | Pressure to 0.8 kPa | |
| | Recheck for vaginal entrapmen | Up |
| | Evaluate peed for episiotomy | Down |

The **Delete...** button will remove the Delivery Scenario selected and its associated Interventions.

5. Settings

The Settings window allows you to change the overall configuration of the program such as the style of font, colour of the graph, colour of the background, the length of the drill and other default user properties.

To view the Settings window go to the Edit menu and select Edit Settings...

| | PT Birthing Trainer - [Drill-1] |
|-----------|---------------------------------|
| 📔 File E | dit Window Help |
| 2 🕑 | Copy Graph Ctrl+Shift+C |
| Propertie | Edit Scenarios |
| Created: | Edit Settings |
| Duration | MARK BOLTZANI DI LANDARD |

There are three sections within the **Settings** window:

- Application allows you to change the visual style of the graph and edit some basic startup options.

| Settings | | | - E |
|-------------|------------------|----------------|-------|
| Application | Drill Settings | Drill Metadata | |
| Show : | splash screen (| on startup | |
| Create | e new drill on s | tartup | |
| Graph for | ¢; | Arial | |
| Graph ba | :kground: | 1 | |
| Plot: | | | |
| Axis | | | |
| Grid | | | |
| | | | |
| | | OK Cancel | Apply |

- **Drill Settings** allows you to edit the duration of the drill. It also gives you the option to display the entire timeline of the graph within the viewing window instead of having to scroll it through the window.

| Settings | E |
|-----------------------------|----------------|
| Application Drill Settings | Drill Metadata |
| Maximum drill duration | 30 minutes |
| Drill default display range | 5 minutes |
| Display entire drill | |
| | |
| | |
| | |
| | |
| | |
| | |
| ОК | Cancel Apply |

- Drill Metadata allows you to add, delete or edit the default settings shown in the Properties Panel (Page 7).

| ppication prin sectings for in the | etadata |
|------------------------------------|-------------|
| Default User Properties | |
| Name Organisation | Add Item |
| Job Title Drill Number | Delete Item |
| Notes | Edit Item |
| | Up |
| | Down |
| Delete all stored values | 1 |

6. Factory settings

Certain default factory settings such as Scenarios can be restored. This is useful should a Scenario be accidentally deleted along with the associated list of Interventions.

Go to the Edit menu and select Restore Factory Settings....

| PRO | WPT | Birthing Train | ner - [Drill-2.drl] |
|------------|------|-----------------|---------------------|
| File | Edit | Window Help | |
| 2 🖻 | | Copy Graph | Ctrl+Shift+C |
| Propertie | | Edit Scenarios | |
| Created: | | Edit Settings | |
| Duration | | Restore Factory | Settings |
| Property | - | value | |
| Alexander. | | 1 Carthour | |

Note

Any new Scenarios that you entered prior to the reset will be retained. They can be deleted on an individual basis by the user, if necessary.

Visit www.limbsandthings.com for the latest PROMPT Birthing Simulator product and software FAQ information.

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