

# Bristol Urodynamics Trainer

An equipment independent training simulator



## Quick Start Guide

# Introduction

The Bristol Urodynamics Trainer (BUT) is a device which simulates commercial urodynamics machines without connection to a patient.

It is a training tool, intended to be used in an educational environment. It is used with a PC without any need for independent power supply or water supply.

The BUT requires a computer running a Microsoft Windows operating system (Windows XP or later). A USB port is also required.

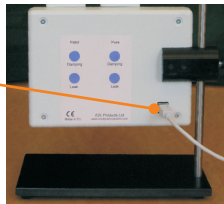
## Unpacking and setting up BUT

Your product is supplied ready to use. In your package you should have three items:

- 1) BUT training simulator
- 2) USB cable
- 3) CD containing this manual

Unpack the BUT and stand it upright on a table top.

Connect the USB cable to the socket situated on the reverse side of the BUT

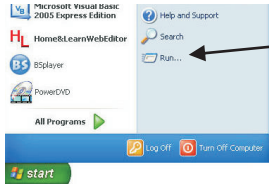


# Installing the software

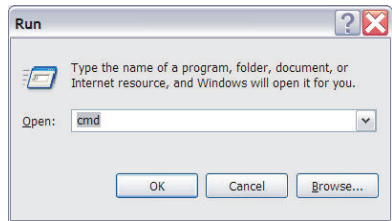
This application needs the “java runtime environment” (JRE) to work properly. If you haven't got the JRE we have provided it on the distribution CD (file javainstall.exe).

Alternatively it can be downloaded from <http://java.com/en/download/manual.jsp> for free. If you install the ‘Urodynamics Training Simulator’ software before installing the JRE it won't be harmful but you will get a “Windows cannot open this file” error. If you are not sure, follow the instructions below:

## How do I know if I have java installed?

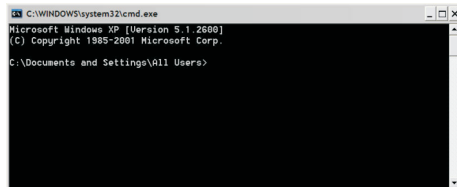


Go to the start menu; click on 'run'



Type in 'cmd' and then press 'OK'

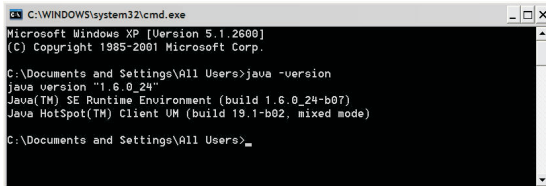
You will get a box similar to:



## Installing the software ...

Type 'java -version' and press Enter

If you don't have java you will get a 'java is not recognized' response, otherwise you will get a response similar to:

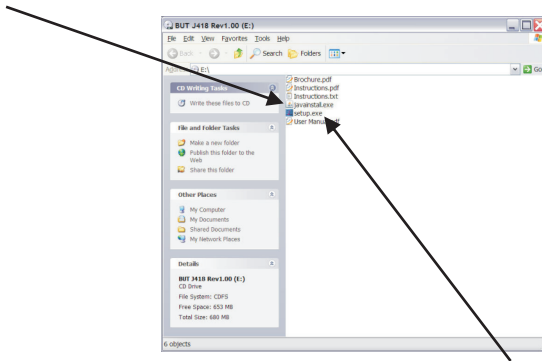


```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\All Users>java -version
java version "1.6.0_24"
Java(TM) SE Runtime Environment (build 1.6.0_24-b07)
Java HotSpot(TM) Client VM (build 19.1-b02; mixed mode)

C:\Documents and Settings\All Users>
```

If you don't have java, go to 'My Computer', select the CD and double click on 'javainstall.exe' and follow the installation instructions.



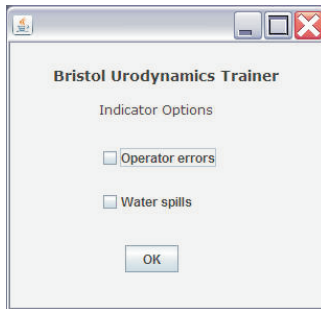
When completed, return to the CD and double click on setup.exe to complete the installation.

## Using the BUT simulator

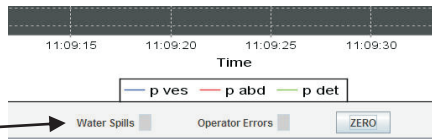
To start using the simulator, plug in the USB cable into a spare USB socket on your computer. Double Click on the 'Bristol Uroynamics Trainer' shortcut on your desktop.



The opening screen will appear:



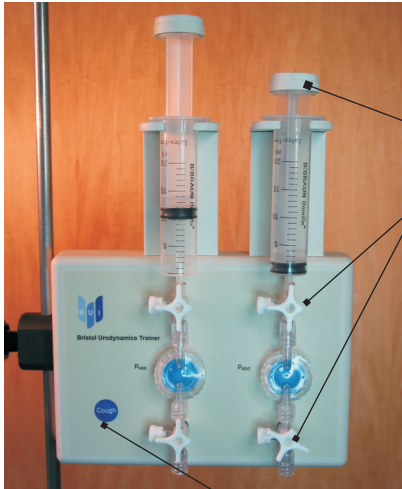
This screen allows the user to have optional on-screen feedback during their training sessions. If either or both of these options are selected then they will appear at the bottom of the main screen as indicator boxes.



A brief alarm will sound in the event of a water spill error, which will occur if the user would have spilled water if they were using a live system. The 'operator error' box will light, without an audible alarm, if the user has performed an action contrary to good uroynamics practice.

Click OK to move onto the main simulator screen. The simulator is now ready for a training or practice session.

## BUT front panel



The front of the BUT has all the functionality of a typical urodynamics machine with two channels,  $p_{ves}$  and  $p_{abd}$ .

Flush procedures can be undertaken using the syringes.

The taps positions are automatically sensed and allow the user to practice procedures without the use of water.

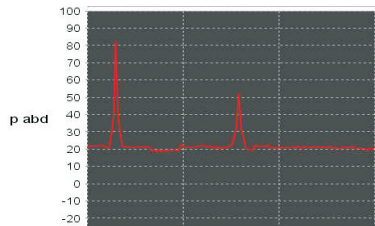
*Note: do not use water at any time with this simulator*

The pressure domes are not active, but the combination of tap positions and syringe actions simulate their function.

The front panel also contains a 'cough' switch.

Pressing this switch will give the same result as a patient being asked to cough.

The trace on the computer will display a good, poor or absent cough response depending on the tap positions..



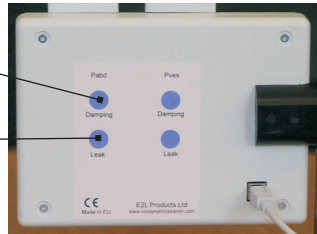
## BUT rear panel

The rear of the BUT has facilities for the supervisor to introduce anomalies into either channel of the system. Pressing any of these buttons will cause the BUT to simulate these effects and give the trainee additional real-life situation challenges.

Pressing any of these buttons a second time will turn their function off and restore normal operation.

The Damping button simulates the presence of air bubbles in the system.

The Leak button simulates a leak in the tube leading to the patient.



## BUT height adjustment



The BUT also has an automatic height sensor. This feature simulates the effect of moving the transducers vertically with respect to the patient. The sensors are situated underneath the simulator and rely on an ultrasonic range finding technique.

The height of the BUT can be adjusted by loosening the clamp nut on the left hand side and moving it up or down the pole. The effective range is between 5cm and 30cm.

*Note: do not obstruct or place an object underneath the BUT as this will effect its height sensing. Also placing the hands underneath the sensors will also cause variation in patient height.*

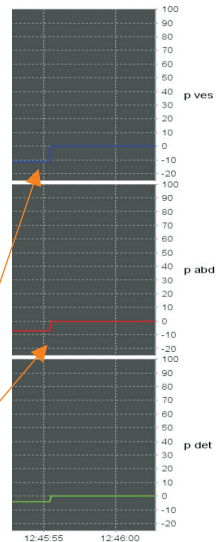
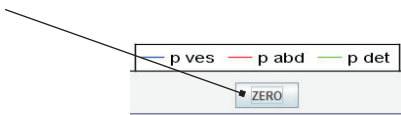
## Zeroing the plot

On the computer display there is the facility for zeroing the plot.

This will cause the traces on the screen to be reset to zero, whatever the position of the taps, just as in a real urodynamics machine.

If the 'operator error' display is activated and the taps are set in the wrong position for zeroing to atmosphere, the error button will light. If the 'operator error' display is not activated, the supervisor will need to explain the error

To zero the plot move the mouse and click on the 'ZERO' button at the middle of the bottom panel of the screen.



*All documentation and software can be downloaded from [www.urodynamicstrainer.com](http://www.urodynamicstrainer.com)*



Specifications subject to change.  
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