

Technical guidance to operate Sandhill ZepHr pH machines

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Calibration:

1. Collect the monitor, single channel probe and a Sandhill-formatted SD card from the drawer in the GI investigations room.
2. Collect pH solution 4 & 7 from the locked cupboard in level 7. Collect new batteries (2x AA).
3. Place the probe in the pH 4 buffer to stabilise for 10 minutes.
4. Log in to the computer in the room and place SD card in the Pc's external card reader.
5. Open BSUH applications then find "Sleuth Zephyr" and open it.
6. Click on "start new patient". If there is already details from previous study it will ask you erase so press ok.
7. Type new patient's details
8. Select consultant name
9. Select "PHIS/PHNS" (usually this is already selected as default).
10. Choose symptoms after you talk to parents or from the request form and give them key numbers in order 1, 2 and 3.
11. Select "save to card". Format SD card if required by pressing "ok" if prompted.
12. When "card ready" press "OK" and take it out.
13. Place new batteries in monitor, place SD card in monitor and connect probe.
14. Patients details should appear on the screen of the monitor, keep pressing key (1) until "calibrate" appears.
15. Press key (1) to start calibration, allow countdown and wait for "ok", take probe out buffer 4 then dip it in tap water and wipe it then place in pH 7, wait 1 minute then press key (1) to calibrate, again wait for countdown and "ok".
16. From that it is ready to record, to avoid accidental start go to standby mode.
17. Please put sticker of patient details in the pH study book and use pH checklist document which would stay in patient's notes.

PH probe placement:

1. You need the length or height of the child, use the formula available on the board to measure how far the probe should go down in cm at the nostril.
2. You and parents have option to use sedation for children above 1 year. Usually oral midazolam 20-30min before the procedure (follow sedation guidelines).
3. Also offer Lignocaine 1% sprays to older children 2-3 min. before the procedure.
4. After insertion send child for CXR to confirm position. The pH sensor should lie between T8-T10. Please note that pH sensor is not necessarily at the tip of the probe (depends on company).
5. Adjust probe higher or lower if required and document on pH checklist.
6. When ready to start press key 1 and enter time on checklist document.

Paediatric Clinical Practice Guideline

Instructions to parents:

1. Show parents/carer how to use the machine, provide a sheet showing symptoms/events with corresponding keys to press "1, 2, 3". Also positions buttons and start/finish feeding buttons "knife +fork".
2. Recording will be for 24 hours, child could go home during study if deemed to be safe. Meals/feeds and activity should be as normal as possible during the study.
3. If probe dislodged before completing 18hours it should be recited whenever possible at the same adjusted length, no need to repeat CXR. Parents have to contact medical ward out of hours.
4. All children should come back to the unit for removal of pH probe. Check on screen that recording is still on and done 24 hours.
5. Always stop recording before you remove the probe. To stop recording press and hold on light button and while holding press on key (1). Stop recording will come up, so release then press stop recording. If you have difficulty then takes the batteries off.

Downloading Data:

1. When machine returned take the SD card out and insert in the external reader.
2. From applications on the computer select "sleuth Zephyr" then click on "transfer patient file". Check patients details then click "transfer" on bottom of the screen.
3. After successful transfer go to the main then exit. Make entry into the book the date of downloading and if there was any issue.
4. At later date the data would be analysed, reported and sent by the consultant to relevant Clinicians.