

# On-site Neonatal Transfer Guidelines

Moving babies between  
RIE and RHCYP

# Using the Transport Shuttle


## Prepare

- Set up the Giraffe Resus System (T-piece) - see GUIDE A for details.
- Set up the ventilator circuit - see GUIDE B for details.
- Set up the suction unit.
- Attach the Phillips monitor to the Shuttle.

## Plug-in

- Plug in the shuttle power supply to the wall at the cot space.
- Plug in the **VENTILATOR** gas hoses on the shuttle into wall supply at the cot space – one at a time. (Only plug-in the T-piece hoses to the wall in the cot space if planned or active use of the Giraffe Resuscitation System pre-departure).

## Park

- Ensuring the incubator is at its **LOWEST** height setting and the breaks are engaged, aim the shuttle between the incubator wheels.
- When the red “**STOP**” light illuminates, the shuttle is ready to be locked to the incubator.
- Depress the “**LOCK**” pedal . The green “**GO**” light should appear when it is properly locked.
- Plug-in the incubator to the shuttle AND secure power cable using the clips on the incubator (see illustrations below). Ensure the cable hangs below drawer to ensure you can still open the drawer if required.
- Hang shuttle Plug over the handle (This is **not** plugged in for transfer)

## Pause

- Refer to Guide C / D / E for setting up invasive / non-invasive ventilation on the Leoni.
- Complete the relevant pre-departure **Pause**.

Pre-printed copies can be found at the back of this folder.



# Guide A – Setting up the Resus System (T-piece)

- The T-piece circuits (1) are located in the top drawer of consumables trolley.

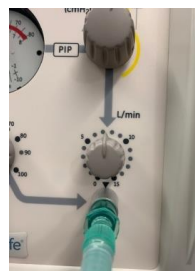


- Open bag replace attached connector to the end of the T-piece circuit with the loose one inside the pack (2).



- Attach the T-piece circuit to the outlet on the Giraffe Resus System (3).

- Open the cylinders on the shuttle by turning cylinder key anti-clockwise. Leave cylinders in open position in anticipation of your transfer.



- Check amount of gas in each cylinder and consider changing them if less than  $\frac{3}{4}$  full.

- Set appropriate pressures according to baby.



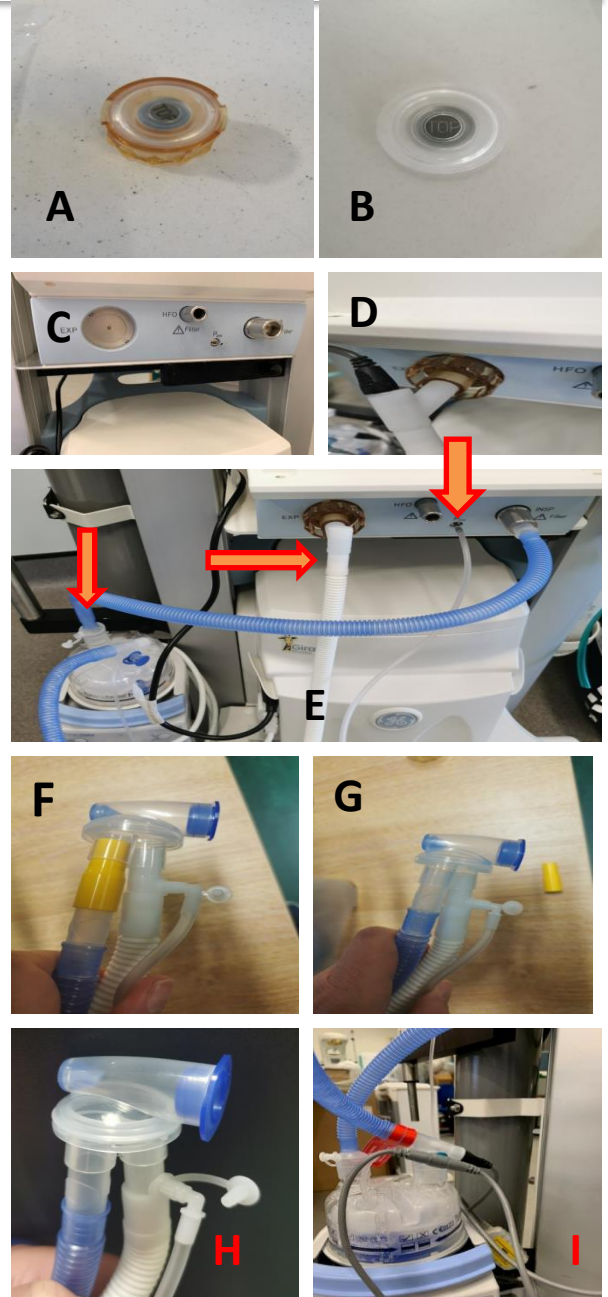
- A Bag & Mask is available in the Transfer Bag which can be attached to the Resus System (4) if required.

- Please ensure that the Resus System is **TURNED OFF** (5) when not in use to avoid inadvertent draining of the gas cylinders during transfer



# Guide B – Setting up the ventilator circuit

- The ventilator blocks are located in the 2<sup>nd</sup> drawer of the consumables trolley.
- Open packet containing block and attach to ventilator, ensure the Clear membrane is in place and the word 'TOP' is face up (PIC B)–insert membrane first - twist the block clockwise until it locks in position leaving a port hole for the tubing
- Using the ventilator circuit located in the top drawer, attach the short blue limb from the inspiratory port to the humidifier chamber (PIC E)
- Attach the long blue limb to the humidifier (PIC E)
- Attach the white limb to the expiratory block (PIC E)
- Attach the pressure line to the ventilator and ensure that it is tightly attached proximally to the white inspiratory limb (PIC E & F)
- Remove the YELLOW restrictor valve (PIC G)
- Do not remove the blue cap from the inspiratory port as the circuit must remain “closed” (PIC H)
- Plug in all 3 sensor probes from humidifier into the vent circuit (PIC I)
- Attach a bag of water to humidifier and hang above humidifier unit.
- Remember to take a flow sensor from the drawer but **do not** attach to circuit at this stage.



**Place entire circuit into sterile bag and put into metal basket attached to shuttle in preparation for moving to cot side.**

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# Guide C - Using the Leoni Ventilator (invasive)

**This guide assumes that you have set up the T-Piece and Circuit in advance (see Guides A & B) and is intended for use at the Baby's cot side.**

- Plug in the gas hoses for VENTILATOR into the wall at the cot space. Please also ensure the gas cylinders are open.
- Plug in the power supply for the shuttle.
- Attach the flow sensor to the cable but **DO NOT** attach to the circuit yet.
- Turn on the ventilator by holding down the green button – a Self-Test message will appear – this takes approx 1 minute.

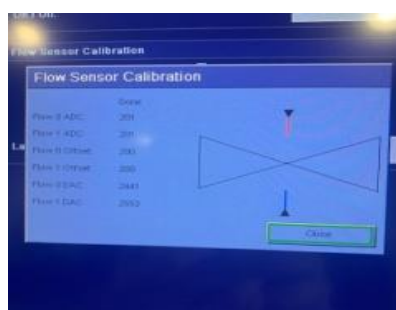
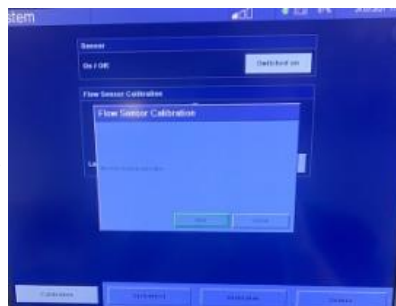


# Guide C - Using the Leoni Ventilator (invasive)

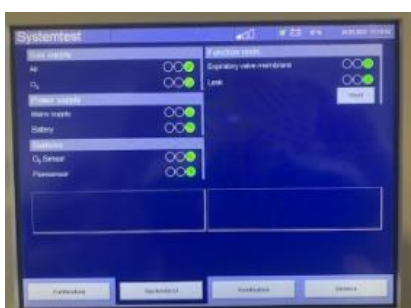
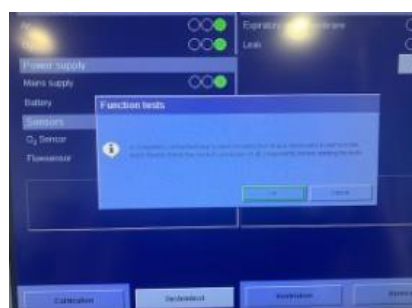
You will be invited to calibrate the flow sensor – occlude both ends with gloved hand and press <Calibrate> and then <Next>. You will hear a quiet “beep” on completion and then press <Close>.



- Now press the <System Test> tab at the bottom of the screen. All the lights on the left of the screen should appear green. Press the <Start> button under the Function Tests at the top right of the screen. You will be reminded to ensure that the circuit is completely closed (blue cap or test lung in place) before pressing <OK>.

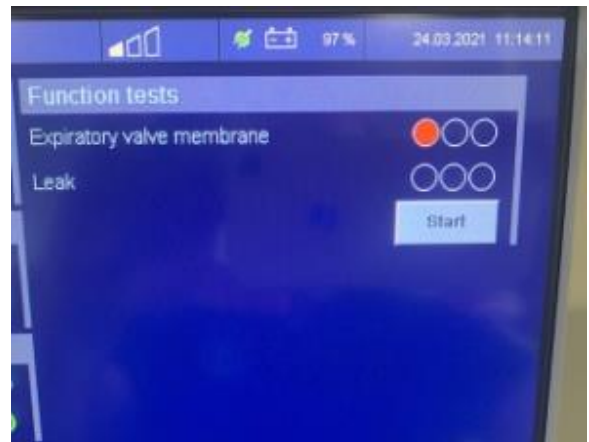


- The expiratory membrane light should appear green before a leak test is performed.



# Guide C - Using the Leoni Ventilator (invasive)

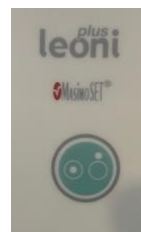
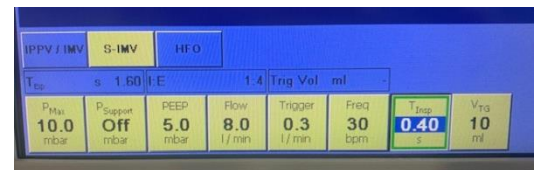
- In the event you get a red or amber light, check the full length of the circuit to ensure it is closed (ie the inspiratory limb is occluded with the blue cap or a test lung is in situ and none of the components have popped-off). Having checked, press the <Start> button once more. You can only proceed to input the ventilation settings when you have passed valve membrane and leak test (see troubleshooting guide)





# Guide C - Using the Leoni Ventilator (invasive)

- Now press the <Ventilation> tab at the bottom of the screen.
- You will be invited to choose the volume of the alarms – we suggest pressing <Low>.
- The Device is now ready for you to select invasive or non-invasive ventilation modes.
- For the purposes of this guide, we will only cover invasive ventilation set-up
- Press the yellow <IV- Invasive Ventilation> button then select mode – usually <SIMV>.
- Enter the PIP, PEEP, frequency and i-time by pressing the individual buttons and using the toggle to select value, clicking it when at desired input. Leave pressure support in off position. Leave pressure support in off position.
- If using volume guarantee, press this use toggle to select value, clicking it downwards to confirm. You are then required to input a Pmax. To revert to non-volume guarantee ventilation, switch to <off> position using the toggle (remember to click to confirm). You will then have to input a PIP again.
- To commence ventilation, press the yellow <START> button.
- You can now attach the circuit to the baby.
- To pause ventilation or to switch off ventilator, press the green on/ off button.





# Guide D – Setting up High-Flow on Leoni

**HFNC are colour coded for sizing**



**Attach clear adapter to the coloured end**



**Attach to the ventilator circuit and leave the invasive pressure line in place**



# Guide E – setting up Leoni CPAP

- Position the hat with the Velcro at the front then place the CPAP prongs/mask onto the generator



- Weave the white straps through the wings of the mask/prongs



- Position the mask on the nose then using the white straps attach to the hat (not the velcro area) (Pic on left)
- Use the foam bridge to support the tubing (pic on right)

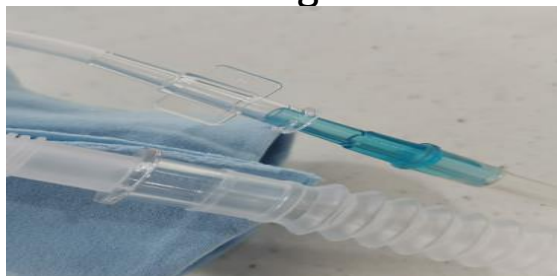


# Guide E – setting up Leoni CPAP

- For extra support use the velcro strap as seen in the pic

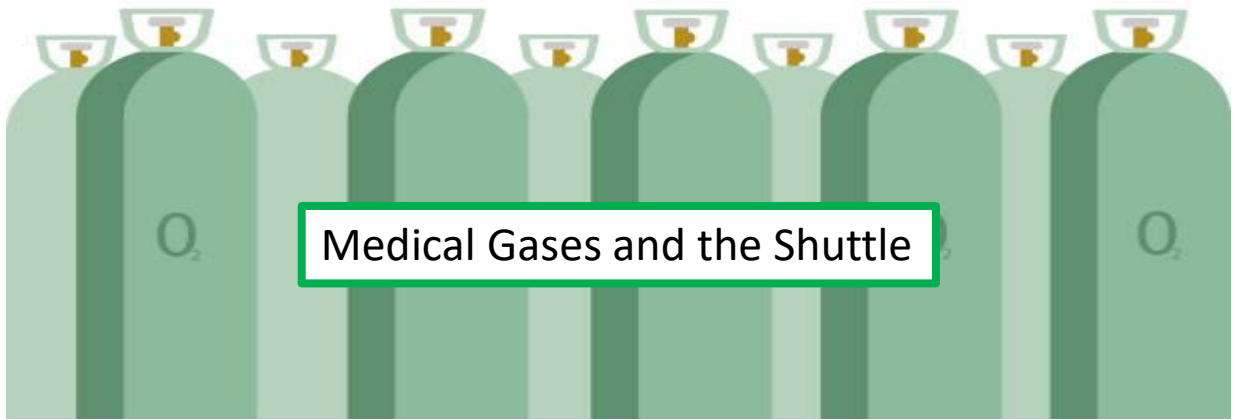


- Attach the pressure line to the thin arm of the generator and the expandable connecting tube to the bigger arm of the generator



- Connect the Blue end of the expandable connecting tube to ventilator circuit
- Connect the other end of the pressure line to leoni (removing the pressure line for the ventilator circuit)





Always check the cylinders at each stage of the transfer AND when not in transit, plug the gas hoses into wall supply to conserve the cylinder gas supply.



If the gas hoses are plugged into the wall then the supply will be taken from the wall, even if the cylinders are open. So....plug-in whenever you can!



Out of Gas? No problem! There are 2 locations where you pick up new E-sized cylinders:



- At RIE: grab a cylinder from the gas store room outside the back of NNU (room F5702A). Get the key from the key press in Duty Room. Take a gas trolley to help bring it back.
- At RHCYP: ask the Charge Nurse in Theatres for a new gas cylinder – they will then ask a Porter to deliver the cylinder(s) to you in Theatre Recovery.

## To change the cylinders:



1. Close the Cylinder valve (turn key clockwise).
2. Vent any gas in the regulator at any secondary supply valve or attached apparatus whenever possible.
3. Remove the regulator head from the cylinder valve (undo the yoke connector at the cylinder valve by turning the thumb screw anti-clockwise).
4. Remove the empty/unwanted cylinder and return to gas store using the trolley.
5. Pick up new cylinder and remove the plastic covering from the cylinder valve outlet.
6. Attach the regulator to the cylinder valve making sure that the pins in the yoke seat properly, then tighten the thumb screw clockwise.
7. While standing to the side (neither in front of nor behind the regulator) slowly open the cylinder valve anti-clockwise. Open FULLY, then close half a turn.
8. Check the regulator to valve connection for leaks.
9. If no leaks detected, the set-up is good to go!

## Transfer Pause B: Bilious Vomiting

Baby identified with bilious vomiting on  
post-natal ward  
Middle grade must review baby

Baby clinically unwell

Baby clinically well

### Admit to NNU

- Insert NG tube
- IV access and fluids
- Consider need for antibiotics
- Document on Badger

### Remain on PNW

- No NG tube inserted initially
- No IV access or monitoring

Refer to Surgical Registrar on  
**(bleep 9103)**  
They will order imaging  
investigations on TRAK

Call Imaging on  
**ext 50880**  
to establish when to attend

### If unwell

Transfer to Imaging Dept in  
open cot with monitoring and  
infusion pump

*Or*

Use incubator with transport  
shuttle

### If well

- Transfer to Imaging Dept in  
open cot with no monitoring
- NGT can be inserted in Imaging  
Department

# Contrast Checklist

## Baby

- 2 x name bands
- CHI + ID Labels
- Wide Bore NGT passed or available
- Milk + bottle teat/syringe/IV fluids
- Soother
- Cardigan/hat/Blankets for Cot transfer
- Consider sucrose if diagnosis likely

## Parents

- Names and contact numbers
- Informed of transfer and reason for transfer explained
- Map provided if making their own way over or directions given

## Staff

- Confirm Appointment Time 50878
- Ensure all paperwork available
- Inform Fluoroscopy dept of departure
- Check Resus equipment available for transfer
- RHCYP passes (Controlled drug cupboard)
- Consult the pathway if malrotation diagnosed

# Imaging Checklist

## Baby

- Is IV Access required/available
- 2 x name bands
- CHI + ID Labels
- Fasted if required (within 4 hours)
- IV fluids changed to syringe (if required)
- Milk + bottle teat/syringe
- Soother
- Cardigan/hat/Blankets for Cot transfer

## Parents

- Names and contact numbers
- Informed of transfer and reason for transfer explained
- Map provided if making their own way over or directions given

## Staff

- Confirm Appointment Time 50880 and Inform radiology dept of departure
- Ensure all paperwork available
- Check Resus equipment available for transfer
- RHCYP passes (Controlled drug cupboard)



# MRI Checklist

## Baby

- 2 x name bands
- CHI + ID Labels
- MR compatible clothing (no metal poppers)
- Milk + bottle teat/syringe/IV fluids
- Soother
- Cardigan/hat/Blankets for Cot transfer

## Parents

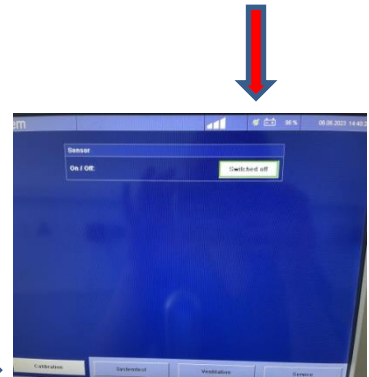
- Names and contact numbers
- Informed of transfer
- Map provided if making their own way over or directions given
- Complete safety questionnaire

## Staff

- Confirm Appointment Time 50879 & Check location (Imaging or intra-operative)
- Ensure all paperwork available
- Complete Safety questionnaire
- Inform MRI dept of departure
- Check Resus equipment available for transfer
- Passes for RHCYP (controlled drug cupboard)

# Troubleshooting Leoni calibration

If on calibration, the mode is 'Switched off'

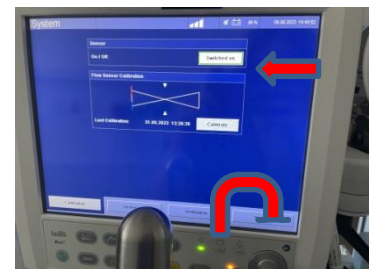


you will need to tap the screen to highlight

Then

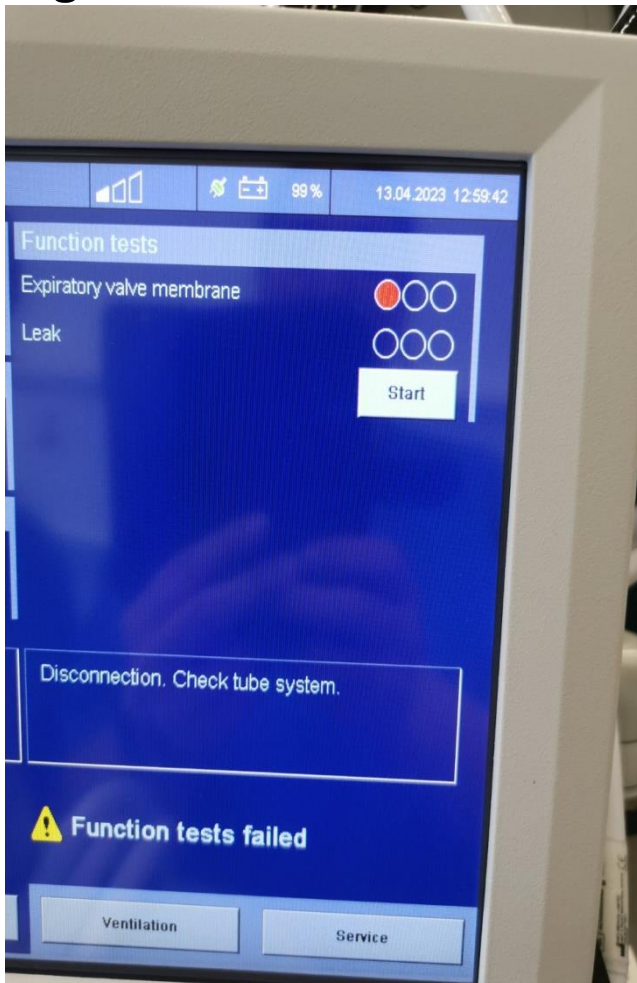


Use the silver roller button to select 'switched on' and push in to confirm.



# Troubleshooting

If during the ventilator checks you get this red light.....

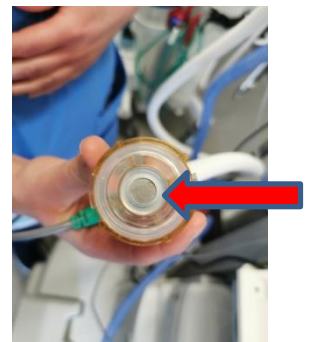


Check for....

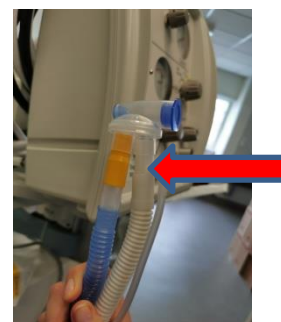
- Leak/open circuits



- Membrane on the wrong way – TOP should be facing up



- SLE restrictor valve (yellow) - this should be removed



# Troubleshooting

- If there are no single use leoni blocks and you need to use the metal blocks



- ensure to switch the ends of the white and blue tubing



A



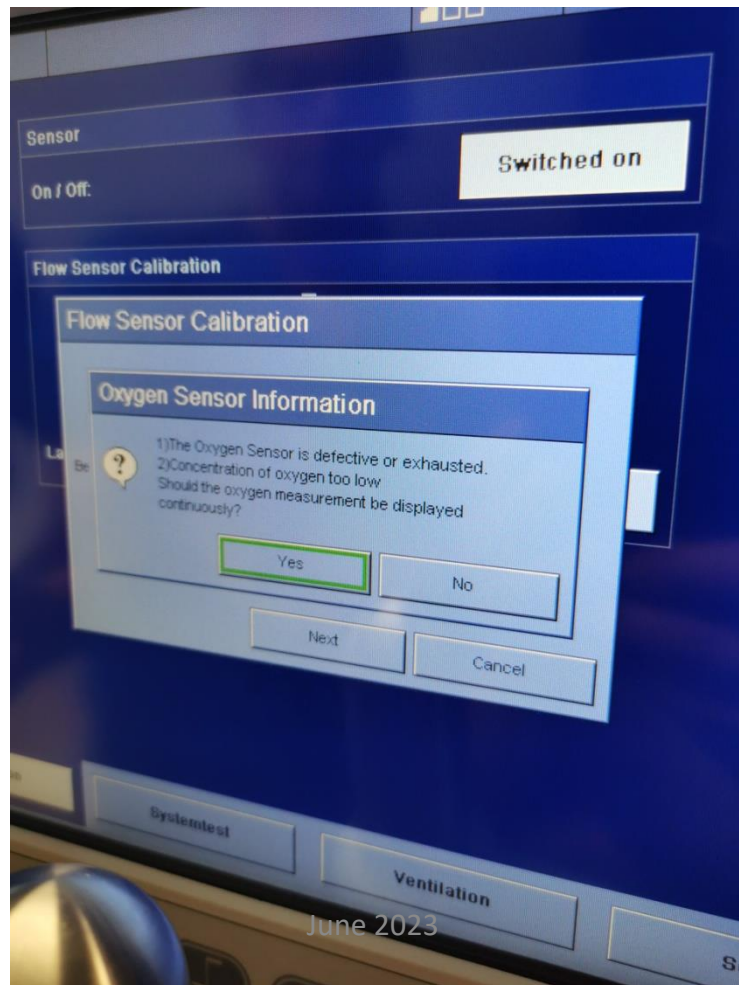
B

- Attach to the block as shown



# Troubleshooting

**If this error message appears turn the ventilator off and back on, should the message persist the shuttle will need to be checked by anaesthetics and should not be used.**



# Transfer Pause A: Intensive Care Transfers

Name:

CHI Number:

Date of Transfer:

Reason for Transfer:

Patient label

## Identification

- 2 name-bands with full data set

## Airway

- ET Tube size \_\_\_\_\_ Length \_\_\_\_\_ cm
- Secure and position checked
- T-piece set up and switched to off position
- Appropriate mask attached

## Ventilator / Gases

- Ventilator set up (as per Guide C)
- Humidifier turned on
- Cylinders turned on at Shuttle and at least ¾ full
- Adequate gas for transfer (check cylinders)

## Circulation

- IV access checked
- If arterial access, MAP satisfactory? Bring Hepsal bag
- If no arterial access, check NIBP with cuff
- Adequate fluids for transfer

## Drugs

- Working weight \_\_\_\_\_ g
- Analgesia / sedation required Yes / No

## Latest Bloods

- Hb \_\_\_\_\_
- Platelets \_\_\_\_\_
- Coag \_\_\_\_\_
- BTS products required Yes / No
- If yes, person responsible: \_\_\_\_\_

## Observations

- Has pre departure temperature been checked?
- HR \_\_\_\_\_ RR \_\_\_\_\_ SpO2 \_\_\_\_\_ Temp \_\_\_\_\_

## Verbal Handover at cot-side

- Medical
- Nursing

## Paperwork to take to Theatre

- Interim Badger Summary
- Drug kardex and fluid chart
- Completed consent form (if completed in advance)  
(IF MRI ON CEPD CONSENT MUST BE TAKEN)
- Adhesive labels with baby details

## Equipment

- Monitoring Adequate and functioning
- Phillips X3 monitor attached to Shuttle
- All cables secured (including incubator power cable)
- Shuttle locked to incubator
- Ventilator circuit secure
- Power cables for infusion pumps stored in metal basket attached to shuttle
- Extension lead if on multiple pumps

## Bag

- Transfer bag present
- Contents checked (including presence of Airway roll)

## Communications

- Cepod Coordinator contacted PRIOR to leaving bed space (Bleep 9260)
- Baby discussed with Anaesthetist
- Adult Theatre recovery area called on ext **23130** to access bridge to RHCYP

## Staff Preparation

- Surgical hat / mask / apron
- Security passes for link bridge & RHCYP
- Transfer phone (cradle in Corstorphine)

## For post-surgical care

- Spare nappy
- Appeel* adhesive remover (to help with removing the diathermy pad) – check in Backpack

## Parents

- Parents aware of transfer and updated
- Parents given map / directions for RHCYP theatres
- Parent's contact numbers:

Name \_\_\_\_\_  \_\_\_\_\_

Name \_\_\_\_\_  \_\_\_\_\_

## Pause Completed by:

Clinician name: \_\_\_\_\_ Signature \_\_\_\_\_ 21

Nurse name: \_\_\_\_\_ Signature \_\_\_\_\_

# Transfer Return Pause : Theatre/CEPOD MRI

Name:

CHI Number:

Date of Transfer:

Reason for Transfer:

Patient label

## Identification

- 2 name-bands with full data set

## Airway

- ET Tube size \_\_\_\_\_ Length \_\_\_\_\_cm
- Secure and position checked
- T-piece set up and switched to off position
- Appropriate mask attached

## Ventilator / Gases

- Ventilator set up (as per Guide C)
- Humidifier turned on
- Cylinders turned on at Shuttle and at least ¾ full
- Adequate gas for transfer (check cylinders)

## Circulation

- IV access checked
- If arterial access, MAP satisfactory? Bring Hepsal bag
- If no arterial access, check NIBP with cuff
- Adequate fluids for transfer

## Drugs

- Working weight \_\_\_\_\_ g
- Analgesia / sedation required Yes / No

## Observations

- Has pre departure temperature been checked?
- HR \_\_\_\_\_ RR \_\_\_\_\_ SpO2 \_\_\_\_\_ Temp \_\_\_\_\_

## Verbal Handover at cot-side

- Medical
- Nursing

## Paperwork to take to Theatre

- Drug kardex and fluid chart
- Theatre Summary/Report

## Equipment

- Monitoring Adequate and functioning
- Phillips X3 monitor attached to Shuttle
- All cables secured (including incubator power cable)
- Shuttle locked to incubator
- Ventilator circuit secure
- Power cables for infusion pumps stored in metal basket attached to shuttle

## Bag

- Transfer bag present
- Contents checked (including presence of Airway roll)

## Communications

- Adult Theatre recovery area called on ext **23130** to access bridge to RHCYP
- Call NNU prior to departure to ensure space/equipment ready **22601**

## Staff Preparation


- Surgical hat / mask / apron
- Security passes for link bridge & RHCYP

## For post-surgical care

- Spare nappy
- Apheel* adhesive remover (to help with removing the diathermy pad) – check in Backpack

## Parents

- Parents aware of transfer and updated
- Parents given map / directions for RHCYP theatres
- Parent's contact numbers:

Name \_\_\_\_\_  \_\_\_\_\_

Name \_\_\_\_\_  \_\_\_\_\_

## Pause Completed by:

Clinician name: \_\_\_\_\_ Signature \_\_\_\_\_

Nurse name: \_\_\_\_\_ Signature \_\_\_\_\_



# Useful Numbers

For on-site transfers



<b>Neonatal Unit</b>	
Reception Desk	22601
Duty Room	22599
Calton	22596
NNU Registrar	Bleep 1610
NNU Consultant	Bleep 1611
<b>Technical advice for Shuttle or Leoni Ventilator</b>	
Roy McDougall	07802 859979
Fraser Christie	07922 402782
<b>Post Natal</b>	
Ward 119	21191
Ward 211	22111
<b>RIE</b>	
Adult Theatre Recovery	23130
BTS	27501
Porters	24242
<b>RHCYP</b>	
Emergency Department	50007
PICU	51148
Theatre Recovery	50981
X-ray	50880 / 50881
CT / MRI	50878 / 50879
Ultrasound	50807 / 50809
Surgical Registrar	Bleep 9103
Theatre Team Lead Office	50991 / 50992
Theatre Coordinator	Bleep 9260
Cepod Anaesthetist	Bleep 9152
Clinical Coordinator	Bleep 9278