	RESPIRATORY SERVICES	DATE CREATED: September 2016
		DATE REVIEWED/REVISED: **August 2017**
PROCEDURE	TITLE: <u>Pulmonary Diagnostics:</u> Overnight Oximetry Study using Masimo Rad-8 Oximeter and Profox Data Download Software (Respiratory Therapy) NUMBER: B-00-12-12129	RELATED DOCUMENTS:

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SITE APPLICABILITY:

ST. PAUL'S HOSPITAL

GENERAL INFORMATION:

Nocturnal (overnight) Oximetry may be ordered for the screening of obstructive sleep apnea and for assessing the effectiveness of therapy. It may also be used for the determination of nocturnal oxygen requirements. The patient's oxygen levels and/or CPAP/BIPAP settings (if known) should be clearly documented. The PF Lab will provide overnight oximetry testing for outpatients upon receipt of a *Pulmonary Diagnostics Requisition*.

EXHIBITS:

A. Respiratory Services Home Sleep Study Questionnaire Form No. PHC-RE055 (Mar-05)
B. Respiratory Services Oximeter Sign Out Form Form No. PHC-RE056 (Mar-05)

SPECIAL CONSIDERATIONS:

- Equipment needs to be returned by 1200 the following day
- Oximeters shall be plugged into a power outlet when not in use
- The optimal locations for the finger probes are middle and ring fingers of the non-dominant hand

REQUIRED SUPPLIES & EQUIPMENT:

- Masimo Rad-8 pulse oximeter with carry case
- Disposable M-LNCS Adtx pulse oximetry finger sensor
- Home Sleep Study Questionnaire
- Oximeter Sign Out form
- Overnight Oximetry instruction sheet
- Computer and printer with Profox software
- Data download cable

PROCEDURE:

1. Verify the test ordered on requisition and therapy for the study (i.e. no therapy, oxygen, CPAP/BIPAP).

   NOTE: For outpatient hemodialysis patients that require overnight oximetry study refer to PROCEDURE FOR OUTPATIENT HEMODIALYSIS PATIENTS.

2. Confirm patient identity with two identifiers (i.e. Full Name, Birthdate).

3. Confirm that the patient is compliant with the therapy for the study (e.g. oxygen, CPAP/BIPAP), document if the patient is not compliant with the mode of therapy as indicated on the requisition.

4. Assemble the equipment and connect all cables (e.g. power cord, sensor, disposable sensor).

5. Explain the procedure to the patient and review the following points:

   a. How to turn the oximeter ON and OFF.
   b. Connecting oximeter to AC power when in use.
      NOTE: The oximeter must be plugged in when in use to maintain the battery charge. Ensure the power cable is securely connected to the rear of the oximeter.
   c. Use of the disposable finger sensor.
   d. Disconnecting the sensor for sleep interruptions during the night.
   e. Try and sleep as long as their usual duration of sleep.

6. Review *Home Sleep Study Questionnaire* with patient. *Exhibit B. Respiratory Services Home Sleep Study Questionnaire*

   a. The patient should document unusual circumstances during the study.
   b. The patient should document any sleeping aids used.

7. Fill out the *Oximeter Sign Out* form and have the patient sign the form. *Exhibit C. Respiratory Services Oximeter Sign Out Form*

8. Inform and confirm that the patient is able to return the equipment before 1200 the following day.

PROCEDURE FOR OUTPATIENT HEMODIALYSIS PATIENTS:

Patients undergoing outpatient hemodialysis have to make frequent visits to the facility, and they often have limitations to their mobility requiring special transportation arrangements. Having to return to the hospital to pick-up and/or drop off an overnight oximeter can be a significant hardship. Therefore the following process should be used for this population group.

PROCESS	RESPONSIBLITY	ACTIONS
Patient requires overnight oximetry study NOTE: a physician order is required	Renal Program	• Complete outpatient PFT requisition (including physician signature) • Ensure patient is identified on requisition as **OUTPATIENT HEMODIALYSIS** • Include dates & times of next dialysis appointments (over a 2 week period) • Fax to PF Lab at SPH
Communicate request to Wards RT	PF Lab	• Post req in 8B Respiratory Report Room • Ensure Wards RT is aware
Determine best dates to drop off & pick up overnight oximeter in hemodialysis area	Wards RT	• Review dialysis appointment schedule & select 2 dates that are occurring over a couple of days (should not send oximeter out with patient for more than 2 nights)

Drop off oximeter with patient on 1st of the two selected dates when patient is in hospital for dialysis	Wards RT	• Drop off oximeter with patient on Renal Unit – provide necessary instruction • Ensure patient is aware of when to return oximeter (should be on next dialysis appointment) • Record pick up date (next dialysis appt) on req & white board in 8B Report Room
Inform RT that patient has returned oximeter	Renal Unit	• Page wards RT (at pager #33718)
Pick up oximeter & download the study; prepare oximeter for subsequent studies	Wards RT	• As per Policy & Procedure RTD5122

PROCEDURE FOR DOWNLOADING:

1. Bring the overnight oximeter and the patient chart to the Dictation room at SPH (Room 8436).

2. Use Caviwipes to surface wipe the oximeter and any accessories.

3. Open the Profox Oximetry application on the computer desktop by double clicking the **PROFOX** icon with the left mouse key.

4. The **Main Menu** will now be displayed. Click **New Patient**.

5. Enter the patient data as prompted:

    a. **Full Name:** Surname, First name
    b. **Identification Number:** PHN Number
    c. **Req. Physician:** Ordering Physicians name
    d. **Report Comments:** Reason for test; performed on RA or Oxygen, CPAP/BiPAP settings if used.

6. When the patient data entry is complete, click **Save**.

7. The program will return to the **Main Menu**. Click on **Oximetry Data (transfer)**.

8. A new screen will appear with a list of compatible devices for download. Use the radio buttons to select **Masimo** and **Masimo Rad-8**. Click **OK** to proceed to the next screen.

9. Select **Download Using ASCII Protocol**. Select **Transfer new memory data from a Masimo Rad8**.

10. Connect the serial cable from the computer to the serial port on the back of the oximeter. Turn on the oximeter and wait for the self-test to be completed. Transfer should begin automatically.

11. Once the download is complete, the program will prompt **Please Select the Recording…** Select the correct recording session from the table on the upper right part of the screen and click **OK**.

12. The graphical tracings the SpO_2 and pulse will be displayed. Click **Save This Test**.

13. The next prompt will ask **Does This Test Belong to…** (Automatically recalls the last patient data entered). If this is correct, select **YES**.

14. The screen with the patient information will appear. Verify the information and press **OK**. Ensure **the test indication and if a CPAP/BIPAP machine was used is noted in the comments section.**

15. The program will now return to the **Main Menu**.

16. **Confirm that the date on the downloaded test is accurate**. From the **Main Menu** select **Utilities**, and then select **Change the Date and Time of Current Test**. If the date and time of the current test are incorrect, make the necessary changes and continue.

17. The option to **Preview** or **Print Reports** will be displayed. Choose **Print Reports**.

18. Print 2 copies of the report.

19. At SPH, place in the patient file in the Dictation room on 8B (Room 8436).

PROCEDURE FOR CLEARING MEMORY:

1. Once the data has been retrieved and verified, the trend information in the memory must be cleared.

2. While the oximeter is in the normal operating mode:

   a. Simultaneously press and hold the **Enter** button and the **Brightness** button for **5 seconds**.
   b. When **Clr NO** appears on the screens, use the **Up** button to toggle until **YES** is displayed on the heart rate screen. Press **Enter** to confirm.
   c. Press the **Enter** button again to accept the clear data action.

PROCEDURE FOR SETTING DATE/TIME:

1. Simultaneously press and old the **Enter** and **Down** buttons for 5 seconds.

2. Use the **Enter** button to toggle through the settings until **Yr** is displayed on the SpO2 screen. Press the **Up** and **Down** button to adjust the numbers until the last two digits of the correct year is displayed. Press **Enter** to confirm/save setting and move on to the next screen.

3. Use the **Enter** button to toggle through the settings until **m** is displayed on the SpO2 screen. Press the **Up** and **Down** button until the correct month is displayed. Press **Enter** to confirm/save setting and move to the next screen.

4. Use the **Enter** button to toggle through the settings until **dAY** is displayed on the SpO2 screen. Press the **Up** and **Down** button until the correct day of the month is displayed. Press **Enter** to confirm/save setting and move to the next screen.

5. Use the **Enter** button to toggle through the settings until **Hr** is displayed on the SpO2 screen. Press the **Up** and **Down** button until the correct 24-hour time is displayed. Press **Enter** to confirm/save setting and move to the next screen.

6. Use the **Enter** button to toggle through the settings until **n1n** is displayed on the SpO2 screen. Press the **Up** and **Down** button until the correct second is displayed. Press **Enter** to confirm/save setting and move to the next screen.

7. The setup menu will 'time out' automatically after 10 seconds of button inactivity, and will exit out of the settings menu.

PROCEDURE FOR SETTING SLEEP MODE:

1. Simultaneously press and hold the **Enter** and **Up** buttons for 5 seconds.

2. Use the **Up** and **Down** buttons to toggle through the settings until **SLP** is displayed on the SpO2 screen. Sleep mode allows data to be captured alarms being triggered for out of range data. The screen will also be

blacked out. A single key press will turn on display for 10 seconds.

REFERENCES:

1. Masimo Rad-8 operating manual

REVIEWED BY:

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