QUALITY WORK INSTRUCTIONAL MANUAL	HALCYON MARINE HEALTHCARE SYSTEMS	**DOCUMENT NO.** **QWI 10.0**	**EFFECTIVITY DATE:** September 5, 2019
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SUBJECT: WORK INSTRUCTIONAL MANUAL FOR AUDIOMETRY			

1.0 PURPOSE

This QWI documents the procedure for testing the hearing acuity of the patient to establish a consistent method using audiometer and proper interpretation of test results applicable to HMHS systems.

2.0 DEFINITIONS AND ACRONYMS

1. Online Portal - It refers to the webpage or website used in HMHS to access patient's data and input PEME results.
2. iNEt - It is the online portal used in HMHS.

3.0 TOOLS AND MATERIALS NEEDED

1. Computer
2. Logbook
3. Audiometer
4. Headset
5. Bone Conductor
6. Response Button

4.0 DATA ENTRY PROCEDURE FOR AUDIOMETRY 1 AND AUDIOMETRY 2

1. Open the browser.
2. Log-in to HMHS online portal.

CONTROLLED

3. Receive the patient's ticket and verify patient's identification through their valid ID. In case queuing system is not operational, audio nurse will call out the patient's name in the waiting area and receive his/her ticket.
4. Advise the patient to sit inside the booth and explain the procedure.
5. Open the "OtoAccess" shortcut installed on the computer of Audiometry 2 while MS office in Audiometry 1.
6. Click "New" client.
7. Enter the patient ID, first name, last name, birthday and click "Save".
8. Double click the instrument, Ad229.
9. Perform the pure tone audiometry (Refer to 5.0. Procedure for Pure Tone Audiometry Test).
10. Instruct the patient about the procedure and fit the headphones.
11. Using the built in microphone, instruct the patient that the better ear is tested first.
12. Start presenting a tone by finger tapping the "Tone Switch" at 1000 Hz proceed to 2000, 3000, 4000, 6000 and 8000 Hz, then recheck 1000 Hz, proceed to 500 Hz and 250 Hz.
13. Repeat the procedure #8 and #9 at the left ear (no need to recheck 1000 Hz for the other ear).
14. Proceed to bone conduction test.

5.0 PROCEDURE FOR PURE TONE AUDIOMETRY TEST

1. Turn on the audiometer.
2. Instruct the patient to press button as soon as he/ she hears a sound (tone).

3. Instruct the patient that the better ear is tested first, followed by the other ear.
4. The tester should fit the headset and ensure that the patient does not feel any discomfort.
5. The patient is instructed not to hold or move the headset.
6. Close the door of the patient's audio room and start testing patient's hearing acuity using the audiometer.
7. Instruct the patient to press the response button whenever he/ she hears a beeping sound through the built-in swan neck microphone.
8. Press "Talk Forward" button on the audiometer.
9. Start at 1000 Hz, then proceed to 2000, 3000, 4000, 6000, 8000 Hz and recheck 1000 Hz. Proceed to 500 and 250 Hz. There is no need to recheck 1000 Hz for the other ear.
10. Using the built-in microphone, instruct the patient that the better ear is tested first.
11. Press the audiometer, start at 250 Hz and proceed to succeeding frequencies.
12. Present a tone to the patient by touching "Tone Switch".
13. Proceed to bone conduction test.

6.0 PROCEDURE FOR BONE CONDUCTION TEST

1. Position the bone conductor on the normal ear.
2. Instruct the patient to press "Patient Response" button (or raise his finger) when he hears a tone).
3. Press "Bone button" once or twice to select the right or left ear.
4. Press "Tone Switch" button to present a tone to the patient.
5. Control intensity by "HL dB" and the frequency by "Frequency".

6. Test bone conduction in this order: 1000, 2000, 3000, 4000 then 500 Hz.
7. Press "Store" button in the audiometer for every result of intensity in each frequency and encode on the patient database.
8. Interpret and encode the results and upload the graph.
9. Record the patient name, PEME ID and its results in the logbook.
10. Sign the patient's ticket or follow-up form and endorse the patient to the next unit.

7.0 PROCEDURE FOR EDITING AND UPLOADING OF AUDIO RESULT (PDF FORMAT)

7.1 For Audiometry 1

1. Edit the excel file template used for making the graph.
2. The graph will automatically plot itself according to the encoded result.
3. Encode the patient's name and date.
4. Print screen the graph and save it to the corresponding testing folder.
5. Upload the audiometry result on patient's database.

7.2 For Audiometry 2

1. In the Otoaccess, open the audiogram AD 229 B for the corresponding patient.
2. Press F2 and the graph will appear.
3. Print screen the graph and save it to the corresponding folder.
4. Crop it using the paint application and save it in bitmap format.
5. Upload the audiometry result on patient's database.

8.0 PROCEDURE FOR COMPANIES REQUIRING AN OFFICIAL AUDIOMETRY RESULT

1. Enter the patient's PEME number.
2. Open the patient's window.
3. On the lower left part, click choose file then select the graph to be uploaded.
4. Click add attachment.

9.0 PROCEDURE ON INTERPRETING THE AUDIOMETRY RESULT

9.1 For Normal Result

Air conduction and Bone conduction values should be within 0-25 decibels.

9.2 For Abnormal Result

1. Assess the range of the values of Air condition, to know the degree of hearing loss based on the interpretation table below:

No.	Values	Interpretation
1	30-40 dB	MILD
2	45-60 dB	MODERATE
3	65-80 dB	SEVERE
4	> 80	PROFOUND

2. If Air conduction from 500 Hz - 4000 Hz is abnormal and Bone conduction is normal, the type of hearing loss is CONDUCTIVE.

3. When Air and Bone conduction is abnormal from 500 Hz - 4000 Hz and the difference is less than 10, the type of hearing loss is SENSORINEURAL.
4. In case, when Air and Bone conduction is abnormal from 500 Hz - 4000 Hz and the difference is more than 10, the type of hearing loss is MIXED.

10.0 CONTINGENCY PLAN FOR SYSTEM DOWNTIME/ POWER OUTAGE

1. Ensure the tester has the complete record of patient's name with the results written in the logbook for easier retrieval in the event of system downtime or power outage.
2. Results saved in the audio database must be transferred to the Google Drive of the unit's computer.

11.0 PROCEDURE FOR TEST RESULTS

1. Audiometry nurse shall ensure complete, correct and accurate encoding of results obtained from the test procedures.
2. Any verification coming from other units regarding the results, should be checked and/ or corrected immediately for on time updating.
3. Any observed questionable data/ info, misencoded information should be verified and communicated with the concerned parties before correcting the data.

12.0 PROCEDURE FOR PATIENTS WITH LOA (Letter of Authorization)

1. Receive the Letter of Authorization (LOA) from the General Manager for Operations via email and group chat. The Audiometry nurse will note the testing date of the SSMA patient indicated in the LOA.
2. SSMA patient presents an LOA to the Audiometry nurse with his/ her valid ID for identity and test verification. In case the patient has no PEME record, ticket will be submitted for verification.
3. Once all verifications are done, explain the Audiometry test procedure to the patient.
4. Start the Audiometry test procedure.
5. Prepare the Official Audiometry result including the generated graph and audiometry values.
6. Convert the Official Result to PDF file.
7. Input the result in the patient's INet database.
8. Tally the encoded result against the Audiometry official result.
9. Send the soft copy file of the Audiometry result to BPM Nurse for printing.
10. The BPM nurse will send the Audiometry Official Result thru email to SSMA's Medical Director at marilarmd@shiptoshore.com.ph and copy furnished the General Manager for Operations. The official result should be processed immediately since the patient is considered as rush.

13.0 PROCEDURE FOR QUALITY CONTROL OF TEST RESULTS

1. Before facilitation, always check proper identification of patients through his/ her valid ID. After verification, the patient may proceed with the test.
2. Encode patient's name and result on the patient's logbook for back up.
3. Make sure that the results encoded in patient's database are correct against the generated graph of the patient.
4. Always check if the results are correct before saving it.
5. Ensure that facilitated patient results are encoded within the day.
6. Audio 1 will counter check the result of the facilitated patients of Audio 2 if the generated graphs results are tallied on the encoded results.
7. Audio 2 will counter check the result of the facilitated patients of Audio 1 if the generated graphs results are tallied on the encoded results.