 <p>B.S. Aquino Drive, Bacolod City, Negros Occidental, 6100</p> <p>DR. PABLO O. TORRE MEMORIAL HOSPITAL</p>	Document Code:	DPOTMH-F-71-P01
	Effective Date:	08-31-2022
	Document Type:	Policy
	Page Number:	1 of 5
	Department/Section:	Biomedical Engineering Section
	Document Title:	GENERAL MEDICAL EQUIPMENT PREVENTIVE MAINTENANCE

PURPOSE:

To set a systematic guideline on all preventive maintenance of medical equipment.

LEVEL:

Biomedical Engineer, Biomedical Equipment Technician (BMET), Biomedical Engineering Section Head, Head Nurse, Area Supervisor


DEFINITION OF TERMS:

Medical Device- an article, instrument, apparatus or machine that is used in the prevention, diagnosis or treatment of illness or disease, or for detecting, measuring, restoring, correcting or modifying the structure or function of the body for some health purpose.

Medical Equipment- medical devices requiring calibration, maintenance, repair, user training, and decommissioning- activities usually managed by clinical engineers. Medical equipment is used for the specific purposes of diagnosis and treatment of disease or rehabilitation following disease or injury; it can be used either alone or in combination with any accessory, consumable, or other piece of medical equipment. Medical equipment excludes implantable, disposable or single-use medical devices.


Biomedical Equipment Technician (BMET)- performs tasks involving the installation and maintenance of therapeutic, diagnostic and monitoring medical equipment.

Preventive Maintenance (PM)- maintenance performed to extend the life of the device and prevent failure. PM is usually scheduled at specific intervals and includes specific maintenance activities such as lubrication, cleaning (e.g. filters) or replacing parts that are expected to wear (e.g. bearings) or which have a finite life.


 <p>B.S. Aquino Drive, Bacolod City, Negros Occidental, 6100</p> <p>DR. PABLO O. TORRE MEMORIAL HOSPITAL</p>	Document Code:	DPOTMH-F-71-P01
	Effective Date:	08-31-2022
	Document Type:	Policy
	Page Number:	2 of 5
	Department/Section:	Biomedical Engineering Section
	Document Title:	GENERAL MEDICAL EQUIPMENT PREVENTIVE MAINTENANCE

POLICY:

1. All medical equipment in the hospital shall undergo preventive maintenance. Maintenance may consist of Planned Preventive (PPM), reactive repair and/or Inspection/ Performance checks. The frequency and level of maintenance shall be according to the system of the Biomedical Engineering department to identify the frequency of the preventive maintenance.
2. The Biomedical Engineering Section Head shall generate the PM schedule.
3. The master list of all the medical devices in the hospital shall be readily available and accessible at all times and shall be updated regularly by the Biomedical Engineering Section.
4. All equipment shall be subjected to inspection and safety testing prior to initial use, after major repairs or upgrades, according to manufacturer recommendations, and/or according to the system of the Biomedical Engineering Section.
5. Operations and service manuals are to be kept by the Biomedical Engineering Section and end users for safekeeping and shall be readily available. The operation manual is valuable not only for equipment users but also for equipment technicians who need to understand in detail how the equipment is used in clinical practice. The service manual is essential for inspection, preventive maintenance, repair, and calibration.
 - 5.1. If operation manuals and service manuals are not always available, or may be in a language not spoken by equipment technicians the clinical engineering department take steps that allow them access to such manuals.
 - 5.2. For existing equipment, the manuals may be borrowed from other local hospitals or obtained online.

 <p>B.S. Aquino Drive, Bacolod City, Negros Occidental, 6100</p> <p>DR. PABLO O. TORRE MEMORIAL HOSPITAL</p>	Document Code:	DPOTMH-F-71-P01
	Effective Date:	08-31-2022
	Document Type:	Policy
	Page Number:	3 of 5
	Department/Section:	Biomedical Engineering Section
	Document Title:	GENERAL MEDICAL EQUIPMENT PREVENTIVE MAINTENANCE

6. An up-to-date list of medical equipment used to provide services shall be available in every department including the location of where it is stored, how it is to be used and the regularity of preventive maintenance.
7. Ward and Departmental Managers shall ensure that medical devices are made available for Planned Maintenance at the appropriate time in accordance with the manufacturers' instructions.
8. When scheduled maintenance is to be performed by an outside vendor, the Biomedical Engineering Section shall notify the vendor and schedule the maintenance service.
9. If the manufacturer or other contracted service provider carries out maintenance on medical devices on site, a record of the visit and work done shall be kept by the ward or department where it was carried out, and forwarded in a timely manner for logging on the asset management system. Maintenance and repair of reusable medical devices shall only be carried out by competent persons recognized as having sufficient technical knowledge and experience.
10. The Memorandum of Agreement for Outside contractors shall be updated and checked regularly for validity and compliance.
11. Equipment scheduled for preventive maintenance but cannot be located can be identified as "could not locate" only after a concerted effort to locate the device has been made, the equipment owners have made every attempt to locate it and the biomedical engineering supervisor/manager has approved the device to be marked in this way.
 - 11.1. If the equipment has not been located for two consecutive maintenance cycles, it shall be removed from service and deleted from the records.
12. The BMET shall keep the files of preventive maintenance service reports.

 <p>B.S. Aquino Drive, Bacolod City, Negros Occidental, 6100</p> <p>DR. PABLO O. TORRE MEMORIAL HOSPITAL</p>	Document Code:	DPOTMH-F-71-P01
	Effective Date:	08-31-2022
	Document Type:	Policy
	Page Number:	4 of 5
	Department/Section:	Biomedical Engineering Section
	Document Title:	GENERAL MEDICAL EQUIPMENT PREVENTIVE MAINTENANCE

DOCUMENTATION:


New Policy

DISSEMINATION:

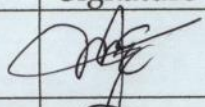

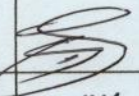

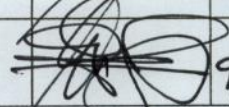
1. Hospital Communicator
2. Policies and Procedure Manual
3. Weekly Management Meetings


REFERENCE:

WHO Medical Equipment Maintenance Programme Overview 2011

 <p>B.S. Aquino Drive, Bacolod City, Negros Occidental, 6100</p> <p>DR. PABLO O. TORRE MEMORIAL HOSPITAL</p>	Document Code:	DPOTMH-F-71-P01
	Effective Date:	08-31-2022
	Document Type:	Policy
	Page Number:	5 of 5
	Department/Section:	Biomedical Engineering Section
	Document Title:	GENERAL MEDICAL EQUIPMENT PREVENTIVE MAINTENANCE

APPROVAL:

	Name/Title	Signature	Date
Prepared by:	MICHAEL J. ERALDO Biomedical Engineer		9/8/22
Reviewed:	DENNIS C. ESCALONA, MN, FPCHA, FPSQua Quality Assurance Supervisor		9/8/2022
Recommending Approval:	ENGR. NOEL P. GARBO, FPCHA Engineering and General Services Division Officer		9/9
	SOCORRO VICTORIA L. DE LEON, CPA, MBA, PhD, FPCHA Vice President- Chief Operating Officer		09/14/2022
Approved:	GENESIS GOLDI D. GOLINGAN President and CEO		9/14/22

 <p>B.S. Aquino Drive, Bacolod City, Negros Occidental, 6100</p> <p>DR. PABLO O. TORRE MEMORIAL HOSPITAL</p>	Document Code:	DPOTMH-F-71-P01-S01
	Effective Date:	08-31-2022
	Document Type:	Standard Operating Procedure
	Page Number:	1 of 4
	Department/Section:	Biomedical Engineering Section
	Document Title:	GENERAL MEDICAL EQUIPMENT PREVENTIVE MAINTENANCE

PURPOSE:

To discuss the processes involved in performing preventive maintenance (PM) of general medical equipment.

SCOPE:


Applies to all Biomedical Engineering Section staff of Dr. Pablo O. Torre Memorial Hospital

PERSON RESPONSIBLE:


Biomedical Engineer, Biomedical Equipment Technician (BMET), Biomedical Engineering Section Head, Head Nurse, Area Supervisor

PROCEDURE:

1. All equipment due for maintenance needs to be identified one month prior to the maintenance date.
2. Parts required for preventive maintenance are ordered and made available for the equipment in this period.
3. The Biomedical Engineering Section Head generates the PM schedule.
4. Work orders will be generated and distributed to the assigned technicians.
5. The Biomedical Equipment Technician (BMET) checks, verifies and prints out the PM schedule. He/she will then inform the area involved by sending communications using the hospital communicator.
6. The Head Nurse/Supervisor/OIC acknowledges the PM schedule and assesses if the schedule is doable or not. If schedule is not applicable, the Head Nurse/Supervisor/ OIC will inform the Biomedical Engineering Section Head for the suggested schedule for PM.
7. The Biomedical Engineering Section Head will update the assigned BMET about the changes in the schedule.

 <p>B.S. Aquino Drive, Bacolod City, Negros Occidental, 6100</p> <p>DR. PABLO O. TORRE MEMORIAL HOSPITAL</p>	Document Code:	DPOTMH-F-71-P01-S01
	Effective Date:	08-31-2022
	Document Type:	Standard Operating Procedure
	Page Number:	2 of 4
	Department/Section:	Biomedical Engineering Section
	Document Title:	GENERAL MEDICAL EQUIPMENT PREVENTIVE MAINTENANCE


8. On the scheduled day of PM, the Head Nurse/Supervisor/OIC prepares the scheduled medical equipment for PM.
9. The BMET proceeds to the area/unit/department and informs the Head nurse/Supervisor/OIC to commence the PM.
10. Maintenance will be performed in accordance to the established PM procedure. The PM procedures will be based on manufacturer's recommendations, industry recommendations and facility experience.
 - 10.1. Checks the initial condition of the equipment and notes any defects or failures.
 - 10.2. Performs visual and physical inspection of the equipment.
 - 10.3. If the equipment is non-functional or tagged as failure, the BMET performs corrective maintenance instead of PM and defers the PM schedule.
 - 10.4. Performs the preventive maintenance as prescribed in the maintenance manual of the medical equipment to manufacturer's standard.
 - 10.5. Performs the calibration, if applicable to the equipment.
11. If the scheduled work cannot be completed (i.e. parts are needed, equipment is in use, and the equipment cannot be located), the reason is documented on a work order. The BMET updates the PM Justification Summary form, and to be signed by the Head Nurse/Supervisor/OIC. This work will be followed up at a later date.
12. Life support equipment due for maintenance but is still in use by patients will be scheduled for maintenance after it is removed from the patient. The technician will work closely with the clinical department to schedule the maintenance as soon as possible.
13. Equipment scheduled for PM but which cannot be located, can be identified as "could not locate" only after a concerted effort to locate the device has been made, the equipment owners have made every attempt to locate it and the Biomedical Engineering Section Head has approved the device to be marked in this way.
14. If the equipment has not been located for two consecutive maintenance cycles, it will be removed from service and deleted from the records. Proper reporting and documentation shall follow.

 <p>B.S. Aquino Drive, Bacolod City, Negros Occidental, 6100</p> <p>DR. PABLO O. TORRE MEMORIAL HOSPITAL</p>	Document Code:	DPOTMH-F-71-P01-S01
	Effective Date:	08-31-2022
	Document Type:	Standard Operating Procedure
	Page Number:	3 of 4
	Department/Section:	Biomedical Engineering Section
	Document Title:	GENERAL MEDICAL EQUIPMENT PREVENTIVE MAINTENANCE

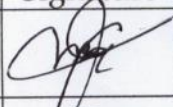


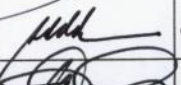
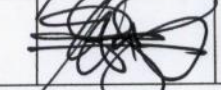
15. Once PM is completed successfully, the BMET fills out the service report form. The equipment will receive the standard PM sticker or other identification tags denoting its maintenance status, with the updated date and name of BMET.
16. The assigned technician will document on the work order the inspections and maintenance performed and any other important observations on the Area/Unit log book.
17. Provide a copy of the Service Report to the Head Nurse/Supervisor/OIC, duly signed with complete name and date.
18. The Head Nurse/Supervisor/OIC checks the Service Report and signs the report with complete name, date and signature.


REFERENCE:

WHO Medical Equipment Maintenance Programme Overview 2011


 <p>B.S. Aquino Drive, Bacolod City, Negros Occidental, 6100</p> <p>DR. PABLO O. TORRE MEMORIAL HOSPITAL</p>	Document Code:	DPOTMH-F-71-P01-S01
	Effective Date:	08-31-2022
	Document Type:	Standard Operating Procedure
	Page Number:	4 of 4
	Department/Section:	Biomedical Engineering Section
	Document Title:	GENERAL MEDICAL EQUIPMENT PREVENTIVE MAINTENANCE

APPROVAL:


	Name/Title	Signature	Date
Prepared by:	MICHAEL J. ERALDO Biomedical Engineer		9/8/22
Reviewed:	DENNIS C. ESCALONA, MN, FPCHA, FPSQua Quality Assurance Supervisor		9/12/22
Recommending Approval:	ENGR. NOEL P. GARBO, FPCHA Engineering and General Services Division Officer		9/12/22
	SOCORRO VICTORIA L. DE LEON, CPA, MBA, PhD, FPCHA Vice President- Chief Operating Officer		09/12/2022
Approved:	GENESIS GOLDI D. GOLINGAN President and CEO		9/14/22

 <p>DR. PABLO O. TORRE MEMORIAL HOSPITAL</p> <p>B.S. Aquino Drive, Bacolod City, Negros Occidental, 6100</p>	Document Code:	DPOTMH-F-71-P01-WI01
	Effective Date:	08-31-2022
	Document Type:	Work Instruction
	Page Number:	1 of 3
	Department/Section:	Biomedical Engineering Section
	Document Title:	GENERAL MEDICAL EQUIPMENT PREVENTIVE MAINTENANCE

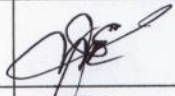


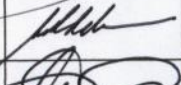
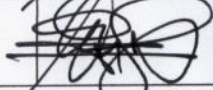
KEY TASKS	PERSON RESPONSIBLE
1. Identifies all equipment due for maintenance one month prior to the maintenance date	Biomedical Engineer, Biomedical Equipment Technician (BMET)
2. Orders the parts required for preventive maintenance ahead of time	Biomedical Engineer, Biomedical Equipment Technician (BMET)
3. Generates the PM schedule	Biomedical Engineering Section Head
4. Distributes generated work orders to the assigned technicians	Biomedical Engineering Section Head
5. Checks, verifies and prints out the PM schedule and informs the area involved by sending communications using the hospital communicator	Biomedical Equipment Technician (BMET)
6. Acknowledges the PM schedule and assesses if the schedule is doable or not	Head Nurse/Supervisor/OIC
7. Updates the assigned BMET about the changes in the schedule	Biomedical Engineering Section Head
8. Prepares the scheduled medical equipment for PM on the scheduled day	Head Nurse/ Supervisor/ OIC
9. Proceeds to the area/unit/department and informs the Head nurse/Supervisor/OIC to commence the PM.	Biomedical Equipment Technician (BMET)
10. Performs maintenance according to the established PM procedure based on manufacturer's	Biomedical Equipment Technician

 <p>DR. PABLO O. TORRE MEMORIAL HOSPITAL</p> <p>B.S. Aquino Drive, Bacolod City, Negros Occidental, 6100</p>	Document Code:	DPOTMH-F-71-P01-WI01
	Effective Date:	08-31-2022
	Document Type:	Work Instruction
	Page Number:	2 of 3
	Department/Section:	Biomedical Engineering Section
	Document Title:	GENERAL MEDICAL EQUIPMENT PREVENTIVE MAINTENANCE

recommendations, industry recommendations and facility experience	
11. Updates the PM Justification Summary form if the scheduled work cannot be completed and should be signed by the Head Nurse/Supervisor/OIC	Biomedical Equipment Technician
12. Fills out the service report form once PM is completed successfully	Biomedical Equipment Technician
13. Attaches the standard PM sticker or other identification tags to the equipment to denote its maintenance status	Biomedical Equipment Technician
14. Documents on the work order the inspections and maintenance performed and any other important observations on the Area/Unit log book	Biomedical Equipment Technician
15. Provides a copy of the Service Report to the Head Nurse/Supervisor/OIC, duly signed with complete name and date	Biomedical Equipment Technician
16. Checks the Service Report and signs the report with complete name, date and signature	Head Nurse/ Supervisor/ OIC

 <p>B.S. Aquino Drive, Bacolod City, Negros Occidental, 6100</p> <p>DR. PABLO O. TORRE MEMORIAL HOSPITAL</p>	Document Code:	DPOTMH-F-71-P01-WI01
	Effective Date:	08-31-2022
	Document Type:	Work Instruction
	Page Number:	3 of 3
	Department/Section:	Biomedical Engineering Section
	Document Title:	GENERAL MEDICAL EQUIPMENT PREVENTIVE MAINTENANCE

APPROVAL:

	Name/Title	Signature	Date
Prepared by:	MICHAEL J. ERALDO Biomedical Engineer		9/8/22
Reviewed:	DENNIS C. ESCALONA, MN, FPCHA, FPSQua Quality Assurance Supervisor		9/12/2022
Recommending Approval:	ENGR. NOEL P. GARBO, FPCHA Engineering and General Services Division Officer		9/12/22
	SOCORRO VICTORIA L. DE LEON, CPA, MBA, PhD, FPCHA Vice President- Chief Operating Officer		9/12/2022
Approved:	GENESIS GOLDI D. GOLINGAN President and CEO		9/14/22

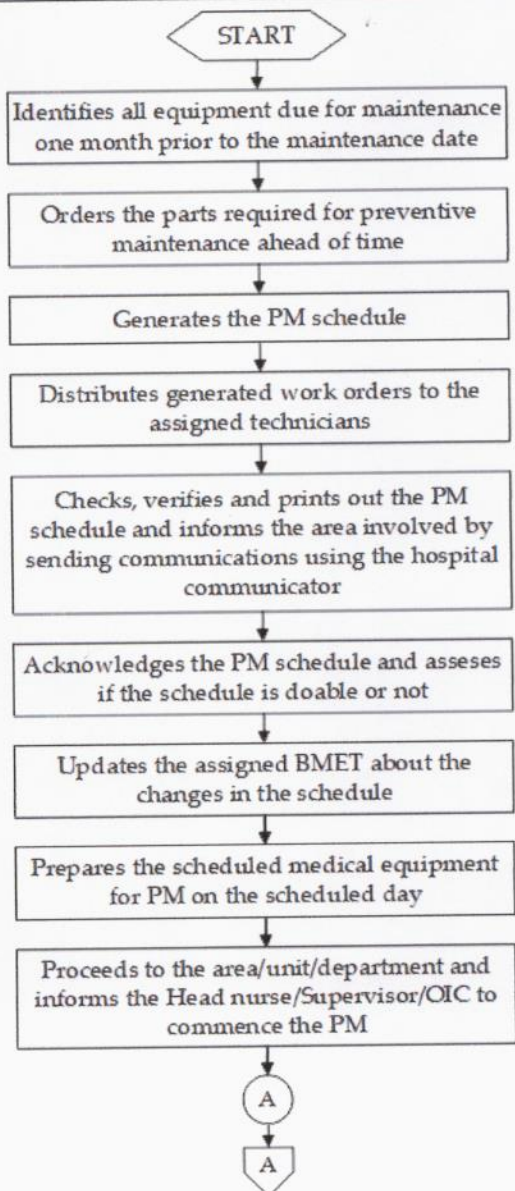


DR. PABLO O. TORRE
MEMORIAL HOSPITAL

B.S. Aquino Drive,
Bacolod City,
Negros Occidental,
6100

Document Code:	DPOTMH-F-71-P01-FC01
Effective Date:	08-31-2022
Document Type:	Flowchart
Page Number:	1 of 3
Department/Section:	Biomedical Engineering Section
Document Title:	GENERAL MEDICAL EQUIPMENT PREVENTIVE MAINTENANCE

FLOWCHART

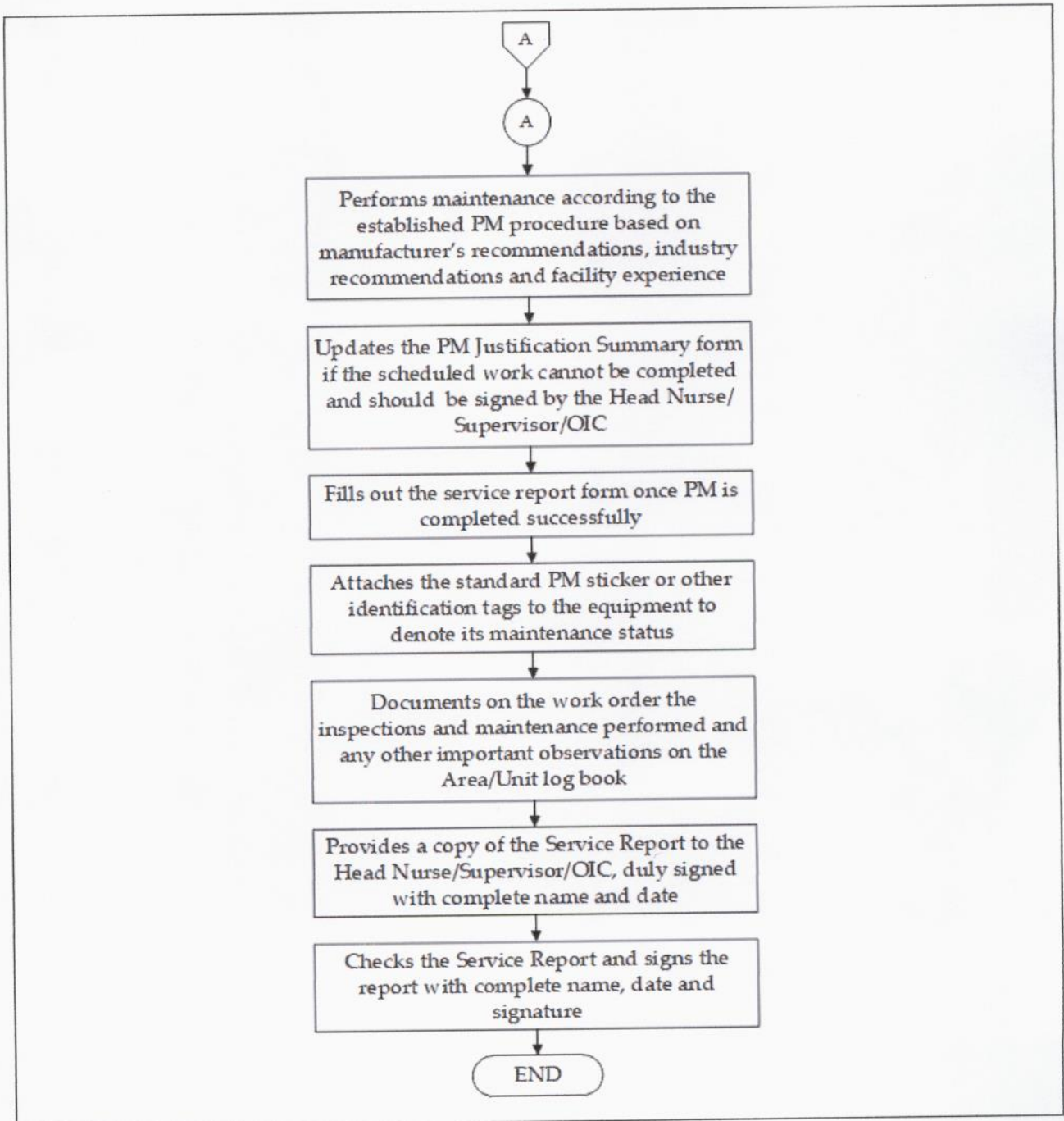





DR. PABLO O. TORRE
MEMORIAL HOSPITAL




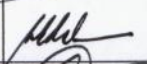
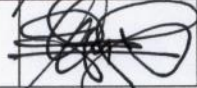
B.S. Aquino Drive,
Bacolod City,
Negros Occidental,
6100

Document Code:	DPOTMH-F-71-P01-FC01
Effective Date:	08-31-2022
Document Type:	Flowchart
Page Number:	2 of 3
Department/Section:	Biomedical Engineering Section
Document Title:	GENERAL MEDICAL EQUIPMENT PREVENTIVE MAINTENANCE



 <p>DR. PABLO O. TORRE MEMORIAL HOSPITAL</p> <p>B.S. Aquino Drive, Bacolod City, Negros Occidental, 6100</p>	Document Code:	DPOTMH-F-71-P01-FC01
	Effective Date:	08-31-2022
	Document Type:	Flowchart
	Page Number:	3 of 3
	Department/Section:	Biomedical Engineering Section
	Document Title:	GENERAL MEDICAL EQUIPMENT PREVENTIVE MAINTENANCE

APPROVAL:

	Name/Title	Signature	Date
Prepared by:	MICHAEL J. ERALDO Biomedical Engineer		9/8/22
Reviewed:	DENNIS C. ESCALONA, MN, FPCHA, FPSQua Quality Assurance Supervisor		9/14/22
Recommending Approval:	ENGR. NOEL P. GARBO, FPCHA Engineering and General Services Division Officer		9/12/22
	SOCORRO VICTORIA L. DE LEON, CPA, MBA, PhD, FPCHA Vice President- Chief Operating Officer		09/12/2022
Approved:	GENESIS GOLDI D. GOLINGAN President and CEO		9/14/22