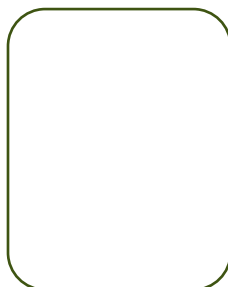


# KEMENTERIAN KESIHATAN MALAYSIA

## BUKU LOG PENOLONG PEGAWAI PERUBATAN OUTPATIENT PARENTERAL ANTIMICROBIAL THERAPY ( OPAT )



Name : .....

NRIC Number : .....

Registration AMO Number : .....

Start date : ..... End date : .....



## INTRODUCTION

Outpatient Antimicrobial Therapy (OPAT) is indeed a valuable healthcare service that allows patients to receive intravenous (IV) antibiotic treatment outside of a hospital setting. This approach provides several benefits to both patients and the healthcare system:

1. **Reduced Hospitalization:** OPAT helps in reducing the need for extended hospital stays, which can be costly and inconvenient for patients. Patients can receive treatment in their own homes or at specialized outpatient clinics, enabling them to maintain their daily routines and quality of life.
2. **Cost-Effective:** OPAT is often a more cost-effective option for healthcare systems. Hospitals are expensive to operate, and by transitioning appropriate patients to an outpatient setting, resources can be allocated more efficiently.
3. **Patient Comfort:** Patients often prefer to receive treatment in the comfort of their homes or at outpatient facilities, rather than in a hospital. This approach can lead to improved patient satisfaction and compliance with treatment plans.
4. **Reduced Risk of Hospital-Acquired Infections:** By minimizing the time spent in the hospital, patients are less exposed to the risk of hospital-acquired infections, which can be a significant concern in healthcare settings.
5. **Tailored Care:** OPAT allows healthcare providers to design treatment plans that are more tailored to the patient's needs and preferences. This can lead to better outcomes and overall patient experience.
6. **Monitoring and Support:** Patients receiving OPAT typically remain under the care of healthcare professionals who monitor their progress, provide education on self-administration (if necessary), and offer support to manage potential side effects or complications.



7. Decreased Bed Pressure: By transferring appropriate patients to OPAT, hospital beds can be freed up for more critical cases, thereby helping to alleviate bed shortages and manage hospital capacity more effectively.

OPAT services are suitable for patients with various infections that can be managed safely and effectively on an outpatient basis. The specific criteria for eligibility and the organization of OPAT services may vary from one healthcare institution to another, but the primary goal is to deliver high-quality antibiotic treatment while minimizing the need for hospitalization. It's important that patients receiving OPAT are carefully selected and closely monitored to ensure the success of the treatment plan and their overall well-being.



## RESPONSIBILITIES OF ASSISTANT MEDICAL OFFICER

An Assistant Medical Officer (AMO) in an Outpatient Antimicrobial Therapy (OPAT) program is a crucial member of the healthcare team responsible for managing patients who require intravenous (IV) antibiotic treatment on an outpatient basis. The responsibilities of an AMO in an OPAT program may include:

1. **Patient Assessment:** Conduct thorough assessments of patients referred to the OPAT program, including a review of medical history, physical examination, and evaluation of their suitability for outpatient IV antibiotic therapy.
2. **Treatment Planning:** Collaborate with physicians and other healthcare professionals to develop individualized treatment plans for patients. This includes selecting appropriate antibiotics, dosages, and treatment durations.
3. **IV Catheter Placement and Care:** Administer and manage intravenous catheters, ensuring proper insertion, maintenance, and aseptic technique. Monitor IV sites for complications and infections.
4. **Medication Administration:** Administer IV antibiotics and other medications as prescribed, ensuring accurate dosages and timing. Monitor patients for any adverse reactions or side effects.
5. **Patient Education:** Educate patients and their caregivers about the proper administration of IV antibiotics, potential side effects, and the importance of compliance with the treatment plan.
6. **Monitoring and Follow-up:** Monitor patients' progress during the course of treatment, including the evaluation of clinical response and laboratory results. Adjust treatment plans as necessary in consultation with the supervising physician.



7. Infection Control: Ensure proper infection control procedures are followed during IV antibiotic administration and catheter care to minimize the risk of infection.
8. Documentation: Maintain accurate and detailed records of patient assessments, treatment plans, medication administration, and follow-up visits.
9. Communication: Communicate regularly with patients, their caregivers, and the healthcare team to provide updates on treatment progress and address any concerns or questions.
10. Emergency Response: Be prepared to respond to any emergencies or complications related to IV antibiotic therapy, such as anaphylactic reactions or catheter-related issues.
11. Quality Assurance: Contribute to the quality improvement efforts of the OPAT program by participating in audits, monitoring patient outcomes, and suggesting process improvements.
12. Collaboration: Collaborate with physicians, nurses, pharmacists, and other healthcare professionals to ensure comprehensive patient care and treatment.
13. Compliance with Regulations: Adhere to local and national regulations and guidelines governing OPAT services, including proper documentation, privacy and confidentiality, and infection control protocols.
14. Patient Advocacy: Act as an advocate for patients, ensuring their needs and concerns are addressed and that they receive appropriate care and support.

It's important to note that the specific duties and responsibilities of an AMO in an OPAT program may vary based on the healthcare facility, local regulations, and the scope of practice for healthcare professionals in the region. The AMO typically works under the guidance and supervision of a qualified physician, and close collaboration with the entire healthcare team is essential to providing safe and effective outpatient antimicrobial therapy.



## TYPE OF ANTIMICROBIALS

The choice of antimicrobial type and the recommended method of administration in an Outpatient Antimicrobial Therapy (OPAT) program depend on several factors, including the patient's medical condition, the specific pathogen causing the infection, the patient's clinical status, and the local guidelines and protocols. Here are some common antimicrobial types and methods of administration used in OPAT:

### Intravenous (IV) Antibiotics:

1. IV antibiotics are a common choice for OPAT, especially when the infection is severe or when oral antibiotics may not be as effective.
2. IV antibiotics are administered through a central venous catheter (e.g., central line) or a peripheral IV line, depending on the patient's condition and the specific antibiotic.

Antimicrobials	Frequency / Duration of Administration	Administration	Suggested IV access
<i>Ceftriaxone</i>	OD/30 mins -1 hour	<i>Slow IV</i>	<i>Peripheral cannula</i>
<i>Ertapenem</i>	OD/30 mins – 1 hour	<i>Slow IV</i>	<i>Peripheral cannula</i>
<i>Cefazolin</i>	OD/24 hours	<i>Continuous infusion</i>	<i>PICC</i>
<i>Ceftazidime</i>	OD/24 hours	<i>Continuous infusion</i>	<i>PICC</i>
<i>Vancomycin*</i>	OD/24 hours	<i>Continuous infusion</i>	<i>PICC</i>
<i>Aminoglycosides*</i> ( <i>Amikacin/Gentamicin</i> )	OD/30 mins – 1 hour	<i>Slow IV</i>	<i>Peripheral cannula</i>
<i>Ganciclovir</i> ( <i>maintenance dose</i> )	OD/1 hours	<i>Slow IV</i>	<i>Peripheral cannula</i>



<b>Other antibiotic for renal patients:</b>			
<i>Ampicillin/Sulbactam</i>	OD/30mins – 1 hour	<i>Slow IV</i>	<i>Peripheral cannula</i>
<i>Amoxicillin/Clavulanate</i>	OD/30mins – 1 hour	<i>Slow IV</i>	<i>Peripheral cannula</i>
<i>Ceftazidime</i>	OD/30mins – 1 hour	<i>Slow IV</i>	<i>Peripheral cannula</i>
<i>Cefazolin</i>	OD/30mins – 1 hour	<i>Slow IV</i>	<i>Peripheral cannula</i>
<i>Meropenem</i>	OD/30mins – 1 hour	<i>Slow IV</i>	<i>Peripheral cannula</i>

\*Antibiotic levels must be determined through the Therapeutic Drug Monitoring (TDM) service.



## TYPE OF INFECTIOUS DISEASES

Outpatient Antimicrobial Therapy (OPAT) is a valuable approach for the management of a wide range of infections that can be treated effectively outside of a hospital setting. The suitability of OPAT for specific infections may vary based on factors such as the patient's clinical condition, the severity of the infection, the type of pathogen involved, and local healthcare guidelines. Common types of infections that are often considered suitable for OPAT include:

1. *Endocarditis*
2. *MSSA/MRSA Bacteraemia*
3. *Melioidosis*
4. Bone and joint infection (osteomyelitis).
5. *Complicated Urinary Tract Infection*
6. *CNS (meningitis)*
7. *Intraabdominal (undrainable abscess)*
8. Respiratory Infection (lung abscess, empyema)
9. Other infections that require prolonged intravenous treatment.

\*However, OPAT treatment is not limited to the list of infections listed above.\*





## LOG BOOK

All Assistant Medical Assistant Officers who participate in OPAT must complete a log book supervised by the Supervisor in charge of the OPAT unit or the liaison officer appointed at the Hospital level. The logbook of the OPAT Assistant Medical Officer has been assessed as follows:

1. Observe: Subject to specific procedures.
2. Assist : Subject to certain procedures
3. Perform : All procedures

The log book must be finished within a period of 3- 6 months from the date of placement in the OPAT unit. Certain special procedures need to be certified by a Medical Specialist



## 1. HAND HYGIENE

NO	PROCEDURES	YES	NO	COMMENT
1	Before perform hand hygiene 1. Expose forearms 2. Remove all hand/wrist jewelry, watches 3. Ensure finger nail are clean, short and artificial nail or nail products are not worn 4. Cover all cuts or abrasions with water proof dressing.			
2	Wet the hand			
3	Dispense liquid soap or antiseptic soap			
4	Rub hands palm to palm			
5	Right palm over left dorsum with interlaced fingers and vice versa.			
6	Palm to palm fingers interlaced			
7	Back of fingers to opposing palm with finger interlocked and vice versa			
8	Rotational rubbing, of right thumb clasped in left palm and vice versa			
9	Rotational rubbing of left thumb clasped in right palm and vice versa.			
10	Perform duration within 40-60 seconds.			
	<b>HAND RUB</b>			
1	Before perform hand hygiene : 1. Expose forearms 2. Remove all hand/wrist jewelry, watches 3. Ensure finger nail are clean, short and artificial nail or nail products are not worn 4. Cover all cuts or abrasions with water proof dressing.			



2	Sufficient hand rub onto palm			
3	Dip all fingers of right hand into left palm filled with hand rub solution, pour hand rub solution over to the right palm and dip all fingers of left hand into hand rub solution.			
4	Rub hands palm to palm.			
5	Right palm over left dorsum with interlaced fingers and vice versa.			
6	Palm to palm finger interlaced			
7	Back of fingers to opposing palm with finger interlocked and vice versa			
8	Rotational rubbing of left thumb clasped, of right thumb clasped in right palm and vice versa.			
9	Perform duration within 20-30 seconds.			
<b>5 MOMENTS OF HAND HYGIENE</b>				
1	Before touching a patient direct/indirectly			
2	Before clean/aseptic procedure			
3	After Body Fluids exposure risk			
4	After touching a patient			
5	After touching patient surroundings			

Remarks :

Signature :

Perform by :

Date :

NUM	ACTIVITY	DATE	ASSESSOR	SIGN
1	PERFORM			
2	PERFORM			
3	PERFORM			
4	PERFORM			
5	PERFORM			



## 2. BLOOD TAKING

NO	PROCEDURES	YES	NO	COMMENT
1	<b>Verify Patient Information</b>  Confirm the patient's identity using at least two patient identifiers (e.g., name, date of birth, medical record number)			
2	<b>Explain the Procedure</b>  Communicate the procedure to the patient, explaining what to expect and addressing any concerns or questions.			
3	<b>Prepare equipment's</b>  Ensure all the necessary supplies including :  <ol style="list-style-type: none"><li>1. Sterile gloves ( withdraw blood from PICC )</li><li>2. Alcohol swabs or cotton soak with chlorhexidine 2%</li><li>3. Tourniquet</li><li>4. Blood collection tubes with appropriate additives</li><li>5. Needles (butterfly or straight needle)</li><li>6. Vacutainer holder or syringe</li><li>7. Adhesive bandages or gauze pads</li><li>8. Biohazard disposal container</li></ol>			
4	<b>Prepare the Environment</b>  Choose a well-lit, clean, and comfortable area for the procedure Ensure proper hand hygiene by washing hands thoroughly or using hand sanitizer			



5	<p><b>Select the Vein</b></p> <ol style="list-style-type: none"> <li>1. Identify a suitable vein, usually in the antecubital fossa or dorsal hand.</li> <li>2. Evaluate the condition of the vein for suitability (visible, palpable, and resilient)</li> </ol>			
6	<p><b>Position the Patient</b></p> <ol style="list-style-type: none"> <li>1. Have the patient sit or lie down, depending on their comfort and the location of the chosen vein</li> </ol>			
7	<p><b>Apply the Tourniquet</b></p> <ol style="list-style-type: none"> <li>1. Use the tourniquet to apply gentle pressure above the selected vein, helping to engorge the vein and make it more accessible</li> </ol>			
8	<p><b>Prepare the Site</b></p> <ol style="list-style-type: none"> <li>1. Clean the site with an alcohol swab or chlorhexidine wipe in a circular motion, working from the center outwards.</li> <li>2. Allow the site to air dry completely to prevent contamination</li> </ol>			
9	<p><b>Put on Gloves</b></p> <ol style="list-style-type: none"> <li>1. Ensure you're wearing sterile gloves to maintain aseptic technique</li> </ol>			
10	<p><b>Perform the Venipuncture</b></p> <ol style="list-style-type: none"> <li>1. Insert the needle at a slight angle (15-30 degrees) into the vein with bevel up.</li> <li>2. Ensure a controlled slow entry to minimize patient discomfort.</li> <li>3. Once blood flow is established, release the tourniquet.</li> </ol>			



11	<b>Collect Blood Samples</b>  <ol style="list-style-type: none"><li>1. Use the appropriate collection tubes for the tests ordered.</li><li>2. Collect the required volume</li><li>3. Collect the required volume of blood, taking care to prevent hemolysis or contamination</li></ol>			
12	<b>Remove the Needle</b>  <ol style="list-style-type: none"><li>1. Withdraw the needle smoothly and gently</li><li>2. Apply a sterile cotton ball or gauze pad to the puncture site and ask the patient to apply pressure</li></ol>			
13	<b>Dispose of Sharps Safely</b>  <ol style="list-style-type: none"><li>1. Place the used needle and any other sharps in a designated biohazard container.</li></ol>			
14	<b>Label the Blood Samples</b>  <ol style="list-style-type: none"><li>1. Label each blood collection tube with the patient's name, date, and other required information</li></ol>			
15	<b>Monitor the Patient</b>  <ol style="list-style-type: none"><li>1. Check the patient for any adverse reactions, such as fainting or dizziness.</li><li>2. Ensure the patient feels well before leaving</li></ol>			



16	<b>Dispose of Waste</b> Dispose of used materials and biohazard waste according to local regulations			
17	<b>Clean and Disinfect</b> Clean and disinfect any equipment or surfaces used during the procedure.			
18	<b>Thank to Patient</b>			
19	<b>Follow Up</b> Ensure that the collected blood samples are transported to the laboratory promptly and stored properly if needed			

Remarks :

Signature :

Perform By :

Date :

NUM	MRN	ACTIVITY	DATE	ASSESSOR	SIGN
1		OBSERVE			
2		OBSERVE			
3		PERFORM			
4		PERFORM			
5		PERFORM			



### 3. BLOOD CULTURE & SENSITIVITY

NO.	PROCEDURES	YES	NO	COMMENT
1	<b>VERIFY THE PATIENT'S IDENTITY</b>			
	1.1 Ask the patient for his or her name			
	1.2 Check the armband			
	1.3 Review the patients notes to confirm indication of blood culture and patient's identity			
	1.4 Inform the patient of your intentions and explain the procedure. Always obtain verbal consent			
2	<b>KIT PREPARATION</b>			
	2.1 Hand Hygiene			
	2.2 Clean trolley with surface wipes			
	2.3 Prepare the Trolley according to instructions below  <b>Upper trolley</b> <ol style="list-style-type: none"> <li>1. Disposable sterile blood culture sampling pack (disposable container, forceps, cotton swab, plastic sheet for draping)</li> <li>2. Blood culture bottles – required bottles only</li> </ol> <b>Bottom trolley</b> <ol style="list-style-type: none"> <li>1. Syringe (10 ml or more)</li> <li>2. Needle (22 gauge or more)</li> <li>3. Sterile gloves</li> <li>4. Tourniquet</li> <li>5. Adhesive strip</li> <li>6. Cotton</li> <li>7. Skin antiseptic: Chlorhexidine 2% and isopropyl alcohol 70%</li> <li>8. Isopropyl alcohol 70% impregnated swab</li> <li>9. Clinical waste</li> <li>10. Sharp bin</li> <li>11. Domestic bin</li> <li>12. Patient labels &amp; PER PAT form</li> </ol>			





	2.4 Prepare the PPE: Clean surgical mask, sterile gloves & Isolation gown			
	2.5 Change to clean surgical mask. Do hand hygiene before & after change of mask			
	2.6 Bring trolley to patients' bedside & get assistant ready			
3	<b>PREPARING BLOOD CULTURE SAMPLE KIT</b>			
	<b>Assistant:</b> Help prepare the kit using <b>NON-TOUCH TECHNIQUE</b> , do not touch any area inside the sterile field (opened blood culture pack)			
	3.1 Do hand hygiene			
	3.2 Open the disposable blood culture pack onto the trolley and drop sterile gloves into sterile pack			
	3.3 Pour Chlorhexidine 2% and isopropyl alcohol 70% into fluid recess located on blood culture tray/pack			
	3.4 Drop needle and syringe onto sterile field			
	3.5 During the procedure, after vena puncture has been done, the assistant should help open the top of the blood culture bottle and let stand on trolley. Do not touch the top once opened.			
4	<b>CHOOSING A VEIN</b>			
	4.1 Do hand hygiene. Wash hands with soap and water then dry			
	4.2 Apply a disposable tourniquet 4-5 –finger – widths above the planned Vena puncture site			
	4.3 Palpate to identify the desired vein. Once you have found the vein, then we are ready to proceed.			
	4.4 Do hand hygiene. Wash hands with soap and water then dry			
	4.5 Proceed to wear PPE in next step.			



5	<b>WEAR PPE &amp; SKIN PREPARATION</b>		
	5.1 Don PPE (apron, sterile gloves). Surgical mask should have been changed earlier		
	5.2 Clean skin with 2% chlorhexidine in 70% isopropyl alcohol in circular motion outwards and <b>allow to dry for 30 seconds. This area is now aseptic</b>		
	5.3 DO NOT re-palpate skin following cleaning. The procedure should now proceed using the <b>ASEPTIC NON-TOUCH TECHNIQUE.</b>		
	5.4 If a culture is being collected from a central venous catheter, disinfect the access port with <b>isopropyl alcohol 70%</b> impregnated swab.		
	5.5 Cover the non-sterile site with an appropriate drape, exposing only the clean site		
6	<b>BLOOD CULTURE PROCEDURE</b>		
	6.1 Insert needle, collect sample and release tourniquet		
	6.2 Remove needle and syringe from puncture site. Place dry swab on puncture site and apply pressure		
	6.3 Disinfect the top of the blood culture bottle with an alcohol swab.		
	6.4 Do not change needles between blood sample collection and inoculation of blood culture bottle		
	6.5 If taking multiple types of blood samples, always inoculate blood culture bottles first. (Anaerobic followed by aerobic bottle)		
	6.6 Inoculate adequate blood volume		



	into the blood culture bottle			
	6.7 Gently rotate the blood culture bottle to mix the blood and culture medium (do not shake vigorously). Gently rotate the blood culture bottle to mix the blood and culture medium (do not shake vigorously).			
7	<b>TO COMPLETE PROCEDURE</b>			
	7.1 Discard needle and syringe in a sharps container.			
	7.2 Dispose the used items in appropriate bins			
	7.3 Remove PPE			
	7.4 Wash hands with soap and water then dry			
8	<b>PACKAGING AND TRANSPORTATION</b>			
	8.1 Label the blood culture bottle, making sure not to remove the 'Tear-off' label on the bottle.			
	8.2 Make sure that patient labels do not cover the blood culture bottle bar code label and are not stuck across the bottom of the blood culture bottle.			
	8.3 Complete a laboratory request form: Remember to include the site, date and time of collection, full clinical information regarding the suspected diagnosis, and contact details for the clinician responsible for the patient.			
	8.4 Deliver the blood culture bottle and laboratory form in a biohazard plastic bag to the laboratory as soon as possible.			



	8.5 If there is a delay in getting the sample to the laboratory, do not refrigerate the bottle; rather leave it at room temperature			
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Remarks :

Signature :

Perform By :

Date :

NO	MRN	ACTIVITY	DATE	ASSESSOR	SIGN
1.		OBSERVE			
2.		OBSERVE			
3.		ASSIST			
4.		ASSIST			
5.		PERFORM			
6.		PERFORM			
7.		PERFORM			

\*This Procedure Must Be Observed by Specialist



#### 4. BRANULA INSERTION

NO.	PROCEDURES	YES	NO	COMMENT
1.	Prepare dressing pack and place the cannula, cannula dressing and water for injection.			
2.	Perform hand hygiene.			
3.	Apply suitable PPE.			
4.	Position the patient's arm in a comfortable extended position that provides adequate access to the planned cannulation site.			
5.	Apply the tourniquet approximately 4-5 finger-widths above the planned cannulation site.			
6.	Palpate the vein you have identified to assess if it is suitable.			
7.	Clean the site with an alcohol swab for 30 seconds and then allow to dry completely for 30 seconds.			
8.	Open the cannula wings if present.			
9.	Anchor the vein with your non-dominant hand from below by gently pulling on the skin distal to the insertion site.			
10.	Insert the cannula directly above the vein, through the skin at an angle of 10-30° with the bevel facing upwards.			
11.	Observe for a flashback of blood into the cannula chamber, which confirms that the needle has punctured the vein.			
12.	Lower the cannula and then advance the needle a further 2mm after flashback is observed to ensure its within the vein's lumen.			
13.	Partially withdraw the introducer needle, ensuring the needle end is within the plastic tubing of the cannula. (You should observe blood entering the plastic tubing of the cannula as you do this)			



14.	Carefully advance the cannula into the vein as you simultaneously withdraw the introducer needle until the cannula is fully inserted and the needle is almost removed.			
15.	Release the tourniquet.			
16.	Apply pressure to the proximal vein close to the tip of the cannula to reduce bleeding.			
17.	Gently pull the introducer needle backwards whilst holding the cannula in position until it is completely removed.			
18.	Connect a Lure lock cap or primed extension set to the cannula hub.			
19.	Dispose of the introducer needle immediately into a sharps container.			
20.	Flush the cannula with water for injection.			
21.	Observe for signs of swelling around the site or pain during administration and stop if this occurs.			
22.	Secure the cannula with a dressing if the cannula flush was successful.			
23.	Dispose of your PPE and other clinical waste into an appropriate clinical waste bin.			
24.	Documentation.			

Remarks :

Signature :

Perform By :

Date :



NO.	MRN	ACTIVITY	DATE	ASSESSOR	SIGN
1.		OBSERVE			
2.		OBSERVE			
3.		ASSIST			
4.		ASSIST			
5.		PERFORM			
6.		PERFORM			
7.		PERFORM			



## 5. MIDLINE INSERTION

NO.	PROCEDURES	YES	NO	COMMENT
1	<b>VERIFY THE PATIENT'S IDENTITY</b>			
	1.1 Ask the patient for his or her name			
	1.2 Check the armband			
	1.3 Review the patients notes to confirm indication of blood culture and patient's identity			
	1.4 Inform the patient of your intentions and explain the procedure. Always obtain verbal consent			
2	<b>PATIENT ASSESSMENT</b> <ul style="list-style-type: none"> <li>The healthcare provider assesses the patient's veins and determines the suitability of a midline catheter based on the patient's medical condition and the duration of treatment required</li> </ul>			
3	<b>INFORMED CONSENT</b> <ul style="list-style-type: none"> <li>The patient is informed about the procedure, and consent is obtained</li> </ul>			
4	<b>PREPARATION</b> <ul style="list-style-type: none"> <li>The healthcare provider gathers all necessary supplies, including the midline catheter kit, sterile gloves, antiseptic solution, sterile drape, and a securement device.</li> </ul>			
5	<b>HAND HYGIENE</b> <ul style="list-style-type: none"> <li>The healthcare provider washes their hands thoroughly and puts on sterile gloves.</li> </ul>			





6	<b>VEIN SELECTION</b> <ul style="list-style-type: none"><li>• A suitable peripheral vein, often in the upper arm, is selected. The area is cleaned with an antiseptic solution to reduce the risk of infection</li></ul>			
7	<b>CATHETER INSERTION</b> <ul style="list-style-type: none"><li>• A sterile, thin, and flexible midline catheter is inserted through a small needle into the selected vein. The catheter is advanced into the vein until it reaches the desired position</li></ul>			
8	<b>SECURING THE CATHETER</b> <ul style="list-style-type: none"><li>• Once the catheter is in place, it is secured with a sterile dressing and a securement device to prevent movement and reduce the risk of dislodgment</li></ul>			
9	<b>FLUSHING AND DRESSING</b> <ul style="list-style-type: none"><li>• The catheter is flushed with sterile saline solution to ensure it is patent (open), and a sterile dressing is applied to the insertion site</li></ul>			
10	<b>DOCUMENTATION</b> <ul style="list-style-type: none"><li>• The procedure, including the date, time, catheter size, and insertion site, is documented in the patient's medical record.</li></ul>			



11	<b>EDUCATION</b>			
	<ul style="list-style-type: none"> <li>The patient is educated on catheter care, signs of infection, and any restrictions or precautions they should follow</li> </ul>			

Remarks :

Signature :

Perform By :

Date :

NUM	MRN	ACTIVITY	DATE	ASSESSOR	SIGN
1.		OBSERVE			
2.		OBSERVE			
3.		ASSIST			
4.		ASSIST			
5.		PERFORM			
6.		PERFORM			
7.		PERFORM			

\*This procedure must be observed by Specialist



## 6. ASSESSMENT OF PICC/MIDLINE/BRANULA (IV LINE)

NO.	PROCEDURES	YES	NO	COMMENT
1	Perform hand hygiene			
2	Wear appropriate PPE (aseptic procedure)			
3	Check for any sign of infection 1. Redness 2. Swelling 3. Pain			
4	Check patency of IV line :  1. Flush line with 5ml : water for injection (branula and midline) heparine saline (PICC only) 2. Check for any resistance during flushing			
5	Keep aseptic technique during procedure			
6	Inform finding to medical officer			
7	Documentation.			

Remarks :

Signature :

Perform By :

Date :

NO.	MRN	ACTIVITY	DATE	ASSESSOR	SIGN
1		OBSERVE			
2		OBSERVE			
3		PERFORM			
4		PERFORM			
5		PERFORM			



## 7. ANTIBIOTIC PREPARATION

NO.	PROCEDURES	YES	NO	COMMENT
1	Identify right patient.			
2	Inform patient's -respond promptly and politely to patient's / career's questions			
3	Verify the antibiotics prescription: ordered by doctor and confirmed by pharmacist			
4	Ensure there is no contraindication (s) for administering the drug			
5	Perform hand hygiene			
6	Counter check with trained staff: <ol style="list-style-type: none"> <li>1. patient's name</li> <li>2. MRN</li> <li>3. drugs dosage</li> <li>4. route</li> <li>5. type of dilution and drug on centration</li> </ol>			
7	7. Prepare the medication for infusion <p>A) check:</p> <ol style="list-style-type: none"> <li>i. Name of drug</li> <li>ii. Drug dosage</li> <li>iii. Expired date</li> </ol> <p>B) verify the medication' compatibility to the intravenous solution</p> <p>C) calculate the dose required for the drug dilution</p> <p>D) calculate the infusion rate to deliver the prescribed dosage</p> <p>E) label the syringe (name, drug dilution, and date dilution)</p>			



Remarks :  
Signature :  
Perform By :

Date :

NO.	MRN	ACTIVITY	DATE	ASSESSOR	SIGN
1		OBSERVE			
2		OBSERVE			
3		PERFORM			
4		PERFORM			
5		PERFORM			



## 8. ANTIBIOTIC ADMINISTRATION

NO.	PROCEDURES	YES	NO	COMMENT
1	Verify identity of right patient			
2	Assess the patency of the peripheral line			
3	Connect the medication syringe to the extension tubing and prime all air from the system			
4	Fix the syringe to the syringe pump			
5	Attach the extension tubing to the dedicated line			
6	Set the calculated infusion rate			
7	Activate the syringe pump			
8	Monitor the patient for the desired therapeutic effects			
9	Observe the patient for the side effect of drug			
10	Document according to institutional protocol: 1. Name of medication, solution used for dilution, dosage and infusion rate 2. Date and time infusion was started 3. Sign the medication chart			
11	When patient refuse to take medication, need to take the following actions: A) document reasons for refusal			
12	Turn off the syringe pump when medication complete			
13	Discard the extension tubing and syringe pump			

Remarks :  
Signature :  
Perform By :

Date :



NO.	MRN	ACTIVITY	DATE	ASSESSOR	SIGN
1.		OBSERVE			
2.		OBSERVE			
3.		PERFORM			
4.		PERFORM			
5.		PERFORM			



## 9. IV DRIP INFUSION

NO.	PROCEDURES	YES	NO	COMMENT
1.	Identify patient details.			
2.	Verify the prescription slip (manual/system)			
3.	Validate correct solution.			
4.	Confirm label on IV bottle. (The time is to be written on the label only)			
5.	Check IV bottle before procedure: 1. expiry date 2. change in color 3. any sediments or particles			
6.	Perform hand hygiene.			
7.	Wear appropriate PPE.			
8.	Check fluid level after completed the treatment.			
9.	IV line assessments. (Make sure no any abnormalities – swelling, redness, tenderness)			
10.	Documentation.			

Remarks :

Signature :

Perform By :

Date :

NO.	MRN	ACTIVITY	DATE	ASSESSOR	SIGN
1.		OBSERVE			
2.		OBSERVE			
3.		PERFORM			
4.		PERFORM			
5.		PERFORM			





## 10. EXCHANGE ELASTOMETRIC PUMP

NO.	PROCEDURES	YES	NO	COMMENT
1	<p><b>Patient Assessment</b></p> <p>Before the exchange, the AMO should assess the patient's condition, review the prescription, and ensure that the current infusion is completed or nearly finished</p>			
2	<p><b>Prepare equipment</b></p> <p>Gather all necessary supplies, including a new, properly filled elastomeric pump, sterile gloves, alcohol swabs, tape or an adhesive securement device, and a sharps container.</p>			
3	<p><b>Hand Hygiene</b></p> <p>Perform hand hygiene by washing hands thoroughly with soap and water or using hand sanitizer.</p>			
4	<p><b>Patient Positioning</b></p> <p>Position the patient comfortably, typically in a seated or lying down position, and ensure proper lighting</p>			
5	<b>Prepare the Site</b>			
	5.1 If the previous pump was secured with tape or an adhesive, carefully remove it without disturbing the catheter or site.			
	5.2 scrub the hub			
6	<p><b>Disconnect the Old Pump</b></p> <p>Carefully disconnect the old elastomeric pump from the catheter hub. Ensure that the catheter is not accidentally dislodged during this process</p>			



7	<b>Prepare the New Pump</b>			
	7.1 Check the new elastomeric pump for proper labeling, medication type, and dosage.			
	7.2 Verify that the pump is not damaged and that the balloon or reservoir is properly filled with the prescribed medication or fluid.			
8	<b>Connect the New Pump</b>			
	8.1 Connect the new elastomeric pump to the catheter hub securely. Ensure that there are no air bubbles in the system, as this can affect the infusion rate.			
	8.2 Follow any specific instructions provided with the pump regarding priming or starting the infusion			
9	<b>Secure the Pump</b>  Use tape or an adhesive securement device to secure the new pump in place, ensuring it does not put excessive strain on the catheter site. The pump should be positioned comfortably for the patient.			
10	<b>Patient Education</b>  Educate the patient on the use of the new pump, including any alarms, precautions, and potential side effects of the medication. Provide written instructions if necessary.			
11	<b>Document the Exchange</b>  Record the details of the pump exchange, including the date, time, medication details, and any relevant patient information, in the patient's medical record.			



12	<b>Dispose of Old Equipment</b>  Dispose of the old pump, sharps, and other used materials in accordance with medical waste disposal regulations			
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Remarks :

Signature :

Perform By :

Date :

NO.	MRN	ACTIVITY	DATE	ASSESSOR	SIGN
1.		OBSERVE			
2.		OBSERVE			
3.		ASSIST			
4.		ASSIST			
5.		PERFORM			
6.		PERFORM			
7.		PERFORM			



## 11 . PICC / MIDLINE DRESSING

NO.	PROCEDURES	YES	NO	COMMENT
1.	Perform hand hygiene.			
2.	Apply suitable PPE.			
3.	Remove old dressing and discard.			
4.	Remove stabilization device or sterile strips, being careful not to dislodge catheter.			
5.	Inspect catheter, site and surrounding skin. Look for any abnormalities:  1. redness 2. swelling 3. infection			
6.	Measure limb circumference above insertion site and compare to baseline.			
7.	Measure external PICC length and compare to baseline. (The length should be the same as when it was placed)			
8.	Remove and discard gloves.			
9.	Perform hand hygiene.			
10.	Open dressing change kit.			
11.	Apply sterile gloves.			
12.	Scrub the hub - cleanse site and tubing with chlorhexidine by scrubbing in a back-and-forth motion for 15 seconds and allow to dry.			
13.	Apply skin protectant and allow to dry.			
14.	Apply new catheter stabilization device or sterile strips.			
15.	Apply sterile transparent semipermeable dressing over insertion site.			
16.	Remove and discard gloves.			
17.	Record date, time, initial and attach label to dressing.			



18.	Perform hand hygiene.			
19.	Dispose of soiled supplies.			
20.	Documentation.			

Remarks :

Signature :

Perform By :

Date :

NO.	MRN	ACTIVITY	DATE	ASSESSOR	SIGN
1.		OBSERVE			
2.		OBSERVE			
3.		ASSIST			
4.		ASSIST			
5.		PERFORM			
6.		PERFORM			
7.		PERFORM			



## 12. REMOVING PICC/ MIDLINE/ BRANULA

NO	PROCEDURES	YES	NO	COMMENT
1	Assessment of PICC/ midline/ branula 1. Sign of infection 2. Removed end of treatment			
2	Perform hand hygiene			
3	Wear appropriate PPE (aseptic procedure)			
4	Take out slowly IV line			
5	Dressing of site insertion			
6	Monitor patient after removal procedure (vital signs and any abnormalities)			
7	Documentation			

Remarks :

Signature :

Perform By :

Date :

NO.	MRN	ACTIVITY	DATE	ASSESSOR	SIGN
1.		OBSERVE			
2.		OBSERVE			
3.		PERFORM			
4.		PERFORM			
5.		PERFORM			



### Declaration

I verify that the information provided in this log book is accurate and there is no indication of fraud

Sign : .....

Date : .....

Applicant : .....

### Comment by supervisor

Comments :

Sign Supervisor : .....

Date : .....

### Decision of the Head of Department

Comments :

I certify and the results are as follows:

Certified

Not certified

Sign Head Of Department : .....

Date : .....



## REFERENCES

1. Policies and procedure on infection prevention and control 2nd edition 2010, Ministry of Health Malaysia
2. Infection prevention & control education tool kit 1<sup>st</sup> edition 2019, Infection control unit Medical care quality section, medical development division, Ministry of Health Malaysia
3. Policies and procedure on infection prevention and control 3rd edition 2019, Ministry of Health Malaysia





## ABBREVIATION

AMO	Assistant Medical Officer
CNS	Central Nervous System
IV	Intravenous
MRN	Medical Record Number
MRSA	Methicillin-Resistant Staphylococcus Aureus
MSSA	Methicillin-Sensitive Staphylococcus Aureus
OD	Once Daily
OPAT	Outpatient Parenteral Antimicrobial Therapy
PICC	Peripherally Inserted Central Catheter
PPE	Personal Protective Equipment



## APPRECIATION

- |   |                                |
|---|--------------------------------|
| 1. Mohamad Sufian Bin Ahmad                 | Hospital Sungai Buloh          |
| 2. Mohd Nasrul Bin Che' Hussin              | Hospital Sungai Buloh          |
| 3. Saifullizan Bin Mohd Hassan              | Hospital Sungai Buloh          |
| 4. Syed Ahmad Maulidawillah Bin Tuan Zainun | Hospital Sungai Buloh          |
| 5. Mohd Zawawi Bin Awang                    | Hospital Tengku Ampuan Rahimah |
| 6. Norhazlan Bin Hassan                     | Hospital Tengku Ampuan Rahimah |
| 7. Md Jufri Bin Haron                       | Hospital Melaka                |
| 8. Ismaruddin Bin Ismail                    | Hospital Pulau Pinang          |
| 9. Muhammad Taufik Bin Hamzah               | Hospital Pulau Pinang          |
| 10. Mohd Suwardi Bin Muhamad Azmi           | Hospital Sultanah Nur Zahirah  |
| 11. Sabri Bin Mat Sain                      | Hospital Queen Elizabeth 1     |
| 12. Noratikah Binti Othman                  | Klinik Kesihatan Air Hitam     |