



MINISTRY OF HEALTH

# OTORHINOLARYNGOLOGY

STANDARD PRACTICE GUIDELINES FOR  
ASSISTANT MEDICAL OFFICERS  
IN OTORHINOLARYNGOLOGY

CAWANGAN PERKHIDMATAN  
PENOLONG PEGAWAI PERUBATAN





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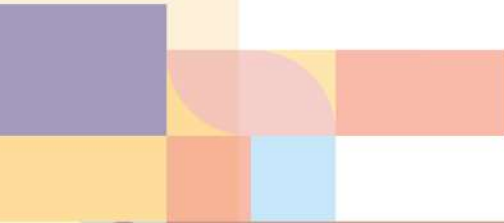
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# Forward MESSAGE



The field of otorhinolaryngology has seen considerable advancements since the publication of the previous Standard Practice Guidelines (SPG).

Assalamualaikum Warahmatullahi Wabarakatuh and Greetings.

It gives me great pleasure to introduce the "Standard Practice Guidelines for Assistant Medical Officers in the Discipline of Otorhinolaryngology, 2<sup>nd</sup> Edition, 2024." This updated edition marks a significant milestone in our ongoing efforts to elevate the standard of healthcare services provided by Assistant Medical Officers across Malaysia.

In response to these developments, this second edition has been meticulously revised to incorporate the latest evidence-based practices, techniques, and approaches. It is designed to be the definitive reference for Assistant Medical Officers, ensuring that clinical practices are aligned with current professional standards and are delivered with the highest quality and safety. The introduction of this updated SPG reflects our commitment to continuous improvement and excellence in healthcare services. It is my sincere hope that this guideline will empower Assistant Medical Officers to perform their duties with increased competence, confidence, and professionalism, ultimately enhancing patient care.

I would like to extend my heartfelt appreciation to everyone involved in the preparation and publication of this guideline. Your dedication and hard work have resulted in a resource that will undoubtedly benefit our healthcare professionals and the patients they serve.

Thank you.

A handwritten signature in black ink, appearing to read "Dr. Radzi", written over a horizontal dotted line.

**DATUK DR. MUHAMMAD RADZI  
BIN ABU HASSAN**

Director General of Health Malaysia

# Forward MESSAGE



Assalamualaikum warahmatullahi wabarakatuh and greetings.

Praise be to Allah SWT, with His grace, we are able to publish the Standard Practice Guidelines for the Discipline of Otorhinolaryngology for Assistant Medical Officers in Malaysia. After 17 years without a revision since the Guidelines book was published in 2007, I am pleased to witness the release of this long-awaited updated edition.

This publication is an essential effort to ensure that healthcare services within the discipline of otorhinolaryngology are standardized and optimized.

In this challenging era, the role of Assistant Medical Officers is becoming increasingly crucial, requiring up-to-date knowledge and comprehensive skills. Therefore, this guideline has been developed to provide clear, accurate, and relevant guidance that reflects current practices, thus enhancing the quality of care provided to the public. I believe this book will not only serve as a key reference but will also help ensure that otorhinolaryngology services in Malaysia continue to advance in line with the rapid development of medical knowledge and technology.

I hope that all Assistant Medical Officers will utilize this guide to improve the quality of their services effectively. In conclusion, I would like to extend my deepest gratitude to everyone involved in the preparation of this book. May this effort be blessed and positively impact the nation's healthcare system.

Thank you.

**DR. MOHAMED IQBAL BIN HAMZAH**  
Director Medical Practice Division

# Forward MESSAGE



In this revised version, we have meticulously updated existing guidelines and introduced new recommendations that reflect the latest advancements in Otorhinolaryngology.

A handwritten signature in black ink, appearing to be 'Z. Salahuddin', written over a white background.

**DR. ZULKIFLEE BIN SALAHUDDIN**  
Head of Specialty Otorhinolaryngology  
Ministry of Health

Assalamualaikum Warahmatullahi Wabarakatuh and Greetings.

It is with immense pride and appreciation that I introduce the second edition of the Standard Practice Guidelines in Otorhinolaryngology. This publication, developed by our experienced Assistant Medical Officers, represents a significant step forward in our commitment to enhancing the quality and consistency of care within our field.

Our aim is to create a cohesive framework that will support all practitioners, ensuring that we deliver the highest standard of service to our patients. These guidelines are designed to be a valuable resource for both new and seasoned Assistant Medical Officers, serving as a comprehensive reference that can aid in daily clinical practice. By standardizing our approaches, we can improve patient outcomes and foster a culture of excellence within our healthcare system.

I would like to express my sincere gratitude to everyone who contributed to the development of this Standard Practice Guideline in Otorhinolaryngology for Assistant Medical Officer. May this book inspire and guide us all in our ongoing efforts to provide professional medical care in the field of Otorhinolaryngology.

Thank you.

# Forward MESSAGE

Assalamualaikum Warahmatullahi Wabarakatuh and Greetings..

It is with great pleasure and gratitude that I welcome the publication of the "Standard Practice Guidelines for Assistant Medical Officers in the Discipline of Otorhinolaryngology, 2<sup>nd</sup> Edition, 2024". This second edition is a testament to our ongoing commitment to enhancing the quality of healthcare services provided by Assistant Medical Officer across Malaysia.



I am confident that this guideline will be an invaluable resource in helping Assistant Medical Assistants perform their duties with responsibility and professionalism.

Since the release of the first edition, there have been significant advancements and developments in the field of Otorhinolaryngology. Consequently, this updated edition has been thoroughly reviewed and revised to reflect the latest progress and introduce new approaches and techniques that are relevant to current practices. This guideline is designed to serve as the primary reference for Assistant Medical Officers working in this discipline, ensuring clinical practices are safe, effective and in line with current standards.

Every guideline contained in this book is the result of careful consideration and in-depth discussions by experts in the field, and I am certain it will have a positive impact on the quality of healthcare services provided to patients.

In conclusion, I would like to express my highest appreciation to all those involved in the preparation and publication of this guideline. Their effort and dedication are greatly valued. I hope this guideline will serve as an effective tool in empowering Assistant Medical Officers to carry out their duties with excellence.

Thank you.

  
.....  
**ZULHELMI BIN ABDULLAH**  
Head of Assistant Medical Officer  
Malaysia



# ACKNOWLEDGEMENT

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# List of ABBREVIATION

AASM	American Academy of Sleep Medicine Guidelines
AHI	Apnea-Hypopnea Index
AMO	Assistant Medical Officer
BHT	Bed Head Ticket
BIPP	Bismuth Iodoform Paraffin Paste
BiPAP	Bilevel Positive Airway Pressure
CPAP	Continuous Positive Airway Pressure
CSSD	Central Sterile Supply Department
EMR	Electronic Medical Record
ESS	Epworth Sleepiness Scale
EUA	Examination Under Anesthesia
EUM	Examination Under Microscope
FB	Foreign Body
FESS	Functional Endoscopic Sinus Surgery
GA	General Anesthesia
HIS	Hospital Information System
HLD	High Level Disinfectant
IC	Identification Card
I&D	Incision and Drainage
MOH	Ministry Of Health of Malaysia
MSQH	Malaysian Society for Quality in Health
OAE	Otoacoustic Emission
ORL	Otorhinolaryngology
OSA	Obstructive Sleep Apnoea
PAP	Positive Airway Pressure
POCL	Perioperative Checklist
PPE	Personal Protective Equipment
PSG	Polysomnography
REM	Rapid Eye Movement
RERA	Respiratory Effort-Related Arousal
RN	Registration Number
RPSGT	Registered Polysomnographic Technologist
SOP	Standard Operating Procedure
SSSL	Safe Surgery Safe Life
T&S	Toilet and Suturing
VPAP	Variable Positive Airway Pressure

## PERFORMED PROCEDURES IN OUTPATIENT CLINIC

B.1

### CLEANING AND DISINFECTION OF MEDICAL APPARATUS

<b>OBJECTIVE</b>	To effectively clean and disinfect medical apparatus to avoid spread of infection to patients and healthcare workers.
<b>SCOPE</b>	Assistant Medical Officer needs to ensure that all medical apparatus used in patient care are cleaned and disinfected in compliance with hospital infection control policies and current standard practice.
<b>FLOW CHART</b>	<pre> graph TD     START([START]) --&gt; PPE[Wear appropriate PPE]     PPE --&gt; SOILED[Receives soiled item]     SOILED --&gt; DISMANTLE[Dismantle all item]     DISMANTLE --&gt; DETERGENT[Prepare detergent]     DETERGENT --&gt; CLEAN[Clean and rinse items with running]     CLEAN --&gt; DISINFECTANT[Prepare High Level Disinfectant Level II]     DISINFECTANT --&gt; SOAK[Soak according to manufacturer recommendation]     SOAK --&gt; RINSE[Rinse item with sterile water]     RINSE --&gt; DRY[Dry all item]     DRY --&gt; ASSEMBLY[Assemble and storage]     ASSEMBLY --&gt; DOCUMENTATION[Documentation]     DOCUMENTATION --&gt; END([END])   </pre>

## B.1.1 | WORK PROCESS OF CLEANING AND DISINFECTION OF MEDICAL APPARATUS

ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT		
Personal Preparation	<ul style="list-style-type: none"> <li>Wear PPE</li> </ul>		<ul style="list-style-type: none"> <li>Procedure Registration Book</li> </ul>		
Receive soiled items	<ul style="list-style-type: none"> <li>Record and receive item / medical apparatus in the procedure registration book</li> </ul>				
Dismantle all items	<ul style="list-style-type: none"> <li>Dismantle all detachable part</li> </ul>				
Prepare detergent	<ul style="list-style-type: none"> <li>Prepare detergent solution (refer manufacturer recommendation for dilution and contact time)</li> </ul>	<ul style="list-style-type: none"> <li>MOH Policies &amp; Procedures On Infection Prevention and Control 2019</li> </ul>	<p><b>Common items:</b></p> <ul style="list-style-type: none"> <li>PPE</li> <li>Detergent solution</li> <li>Disinfectant solution</li> <li>Brush</li> <li>Container</li> <li>Linen Protector</li> <li>Tap water</li> <li>Tube dryer</li> <li>Cleaning Brush</li> <li>Sterile water</li> </ul>		
Clean and rinse items with running tap water	<ul style="list-style-type: none"> <li>Clean all item with soft brush and rinse them with running tap water to remove any visible foreign material</li> </ul>				
Prepare disinfectant	<ul style="list-style-type: none"> <li>Prepare HLD Level II</li> </ul>				
Soak the instruments	<ul style="list-style-type: none"> <li>Soak according to manufacturer's recommendation</li> </ul>				
Rinse the instruments	<ul style="list-style-type: none"> <li>Rinse with sterile water</li> </ul>				
Dry the instruments	<ul style="list-style-type: none"> <li>Use a cloth or absorbent material to wipe and dry medical instrument / apparatus</li> </ul>				
Assemble and store	<ul style="list-style-type: none"> <li>Assemble all detachable part and store all item</li> </ul>				
Documentation	<ul style="list-style-type: none"> <li>Document the procedure</li> </ul>				
Reference	<ol style="list-style-type: none"> <li>Josephs-Spaulding, J., &amp; Singh, O. V. (2021). Medical Device Sterilization and Reprocessing in the Era of Multi drug- Resistant (MDR) Bacteria: Issues and Regulatory Concepts. <i>Frontiers in medical technology</i>, 2, 587352.</li> <li>Ling, M. L., Ching, P., Widadputra, A., Stewart, A., Sirijindadirat, N., &amp; Thu, L. (2018). APSIC guidelines for disinfection and sterilization of instruments in health care facilities. <i>Antimicrobial resistance and infection control</i>, 7, 25.</li> </ol>				

<b>OBJECTIVE</b>	To completely remove any foreign objects, either organic or non-organic from the ear canal.
<b>SCOPE</b>	Every patient who undergoes ear syringing procedure.
<b>FLOW CHART</b>	<pre> graph TD     Start((START)) --&gt; A[Receive doctor's instruction]     A --&gt; B[Registration]     B --&gt; C[Assessment / Examination]     C --&gt; D{Contraindication}     D -- YES --&gt; E[Refer doctor]     D -- NO --&gt; F[Prepare equipment]     F --&gt; G[Perform procedure]     G --&gt; H{Uncooperative patient / Complication}     H -- YES --&gt; E     H -- NO --&gt; I[Health education]     I --&gt; J[Documentation]     E --&gt; J     J --&gt; K((END))   </pre>

## B.2.1 | WORK PROCESS OF EAR SYRINGING

ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT
Receive instruction	<ul style="list-style-type: none"> <li>● Read and understand the doctor's instruction</li> </ul>	<ul style="list-style-type: none"> <li>● Pain as 5<sup>th</sup> Vital Sign Guidelines 3<sup>rd</sup> Edition 2018</li> </ul>	<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
Registration	<ul style="list-style-type: none"> <li>● Register patient in the procedure book</li> <li>● Patient's particular:                             <ul style="list-style-type: none"> <li>➢ Date</li> <li>➢ Name</li> <li>➢ RN / IC</li> </ul> </li> </ul>		
Assessment / Examination	<ul style="list-style-type: none"> <li>● Assess the patient's ear for abnormalities</li> <li>● <b>Contraindications:</b> <ul style="list-style-type: none"> <li>➢ Perforated Tympanic Membrane</li> <li>➢ Acute ear infection</li> <li>➢ Presence of Ventilation Tube</li> <li>➢ Vertiginous patient</li> </ul> </li> <li>● Refer Specialist / Medical Officer for further Management</li> </ul>		<ul style="list-style-type: none"> <li>● PPE</li> <li>● Otoscope</li> <li>● Aural Speculum</li> <li>● Head light</li> </ul>
Prepare equipments / instruments	<ul style="list-style-type: none"> <li>● Prepare and check equipment / instruments                             <ul style="list-style-type: none"> <li>➢ Adequate brightness</li> <li>➢ Functioning well</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>● PPE</li> <li>● Otoscope / Diagnostic Microscope (if available)</li> <li>● Camera System (if available)</li> <li>● Aural Speculum (size 1 – 5)</li> <li>● Head Light</li> <li>● Kidney Dish</li> <li>● Gauze</li> <li>● Syringe 20 ml or 50ml</li> <li>● Branula size 18</li> <li>● Irrigating solution at body temperature (37°C)</li> <li>● Dressing Towel</li> <li>● Cotton Balls</li> <li>● Cotton-Tipped applicator</li> <li>● Waterproof Blue Pad</li> </ul>
Prepare patient	<ul style="list-style-type: none"> <li>● Check for the correct patient, procedure and side</li> <li>● Explain about the procedure to patient / guardian and obtain verbal consent</li> </ul>		<ul style="list-style-type: none"> <li>● Patient Examination Chair</li> <li>● Examination Couch</li> </ul>

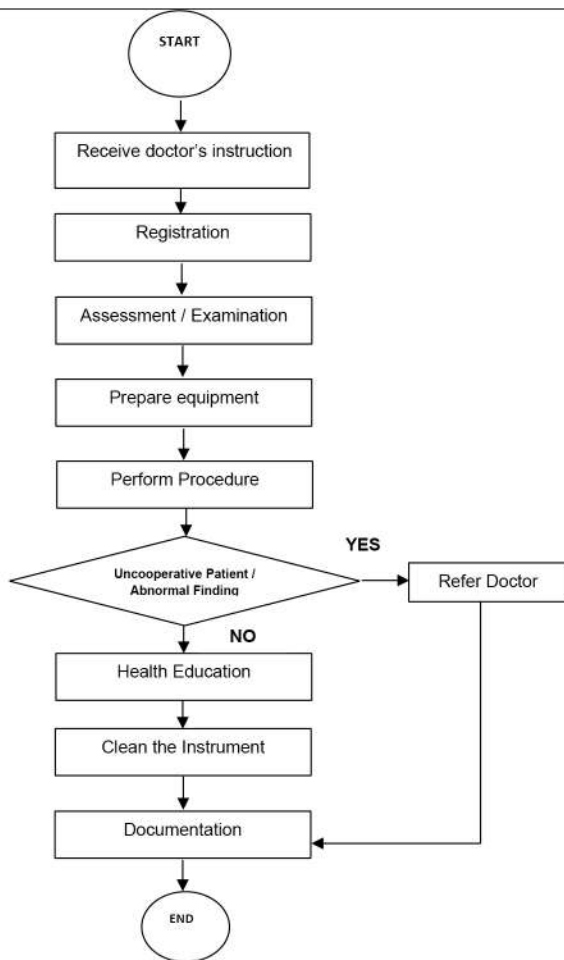
	<ul style="list-style-type: none"> <li>● Put the patient in a sitting / supine position</li> </ul>		
<p><b>Perform procedure</b></p>	<ul style="list-style-type: none"> <li>● Perform aseptic technique:             <ul style="list-style-type: none"> <li>➢ Hand washing</li> <li>➢ Disposable gloves</li> </ul> </li> <li>● Clean the patient's pinna and ear canal if necessary</li> <li>● Place a dressing towel over the shoulder</li> <li>● Ask the patient to tilt the head so that the ear to be irrigated is facing downwards</li> <li>● Place the kidney dish below the patient's ear</li> <li>● The patient may assist by holding the kidney dish in position</li> <li>● In uncooperative patient or pediatric age group:             <ul style="list-style-type: none"> <li>➢ Hold the child gently and firmly in a lying position and proceed with the procedure</li> <li>➢ Abandon the procedure if patient is still uncooperative and refer back to doctor</li> </ul> </li> <li>● Straighten the ear canal by gently pulling the pinna:             <ul style="list-style-type: none"> <li>➢ Upwards and backwards (adult)</li> <li>➢ Downwards and backwards (pediatric)</li> </ul> </li> <li>● Insert the tip of the syringe into the meatus and push the plunger in the direction towards postero-superior wall of the ear canal</li> <li>● Dry off the patient's outer ear with cotton ball             <ul style="list-style-type: none"> <li>● Re-examination of the patient's ear after syringing</li> </ul> </li> <li>● Refer doctor if any complications post-procedure:             <ul style="list-style-type: none"> <li>➢ Ear pain</li> <li>➢ Perforation of tympanic membrane</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies &amp; Procedures on Infection Prevention and Control 2019</li> <li>● Pain as 5<sup>th</sup> Vital Sign Guidelines 3<sup>rd</sup> Edition 2018</li> </ul>	

	<ul style="list-style-type: none"> <li>➤ Vertigo</li> <li>➤ Failure of procedure</li> </ul>		
<b>Health education</b>	<ul style="list-style-type: none"> <li>● Ear care               <ul style="list-style-type: none"> <li>➤ Avoid cotton bud application</li> <li>➤ Keep the ear dry</li> <li>➤ Avoid any FB insertion</li> </ul> </li> </ul>		
<b>Clean the instruments/ equipments</b>	<ul style="list-style-type: none"> <li>● Clean the instruments according to standard procedure</li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies &amp; Procedures on Infection Prevention and Control 2019</li> </ul>	<ul style="list-style-type: none"> <li>● Refer B.1 Procedure</li> </ul>
<b>Documentation</b>	<ul style="list-style-type: none"> <li>● Document the procedure and findings</li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
<b>References</b>	<ol style="list-style-type: none"> <li>1. Pediatrics ear syringing in a tertiary health institution of a developing country: Our experience Waheed Atilade Adegbiyi, AbdulAkeem Adebayo Aluko, Shuaib Kayode Aremu, <i>Pyramid Journal of Medicine</i> (2022)</li> <li>2. Current Tread in Ear Syringing In Enugu, Chijioke c. Anekpo, Akpeh James Onuorah, <i>International Journal of Medical Science and Clinical Invention</i> (2021)</li> <li>3. Ear Syringing-trends from a young ENT practice in Nigeria Adedeji T, Sogebi O, Bande S <i>National Journal of Mediccal Reasearch</i> (2013) 3(2) 126-129</li> <li>4. Facial nerve palsy as a complication of ear syringing, A. M. Thomas, B. Poojary, H. C. Badaridatta, <i>Journal of Laryngology and Otology</i> (2012)</li> <li>5. Ear syringing: Minimising the risks, Sara Bird, <i>Australian Family Physician</i> (2008)</li> <li>6. Water as a fast acting wax softening agent before ear syringing., Christos Pavlidis, John A. Pickering, <i>Australian family physician</i> (2005)</li> </ol>		

**OBJECTIVE** To examine and clean the external ear canal until tympanic membrane.

**SCOPE** Every patient with ear related issues and condition as ordered by doctor.

**FLOW CHART**



**B.3.1 | WORK PROCESS OF EXAMINATION UNDER MICROSCOPE / EAR TOILETTE**

ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT
Receive instruction	<ul style="list-style-type: none"> <li>● Read and understand doctor's instruction</li> </ul>	<ul style="list-style-type: none"> <li>● Pain as 5<sup>th</sup> Vital Sign Guidelines 3<sup>rd</sup> Edition 2018</li> </ul>	<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
Registration	<ul style="list-style-type: none"> <li>● Register patient in the procedure book</li> <li>● Patient's particular:                             <ul style="list-style-type: none"> <li>➢ Date</li> <li>➢ Name</li> <li>➢ RN / IC</li> </ul> </li> </ul>		
Assessment /Examination	<ul style="list-style-type: none"> <li>● Assess the patient's ear for any abnormalities:                             <ul style="list-style-type: none"> <li>➢ Pinna swelling</li> <li>➢ Perichondritis</li> <li>➢ Canal atresia</li> </ul> </li> <li>● Refer Specialist/Medical Officer for any abnormalities for further management</li> </ul>		<ul style="list-style-type: none"> <li>● PPE</li> <li>● Otoscope</li> <li>● Aural Speculum</li> <li>● Head Light</li> </ul>
Prepare equipments/ instruments	<ul style="list-style-type: none"> <li>● Prepare and check equipment/instruments                             <ul style="list-style-type: none"> <li>➢ Adequate brightness</li> <li>➢ Functioning well</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>● PPE</li> <li>● Diagnostic Microscope</li> <li>● Camera System</li> <li>● Aural Suction Cannula with Tip</li> <li>● Suction Tubing</li> <li>● Suction Machine</li> <li>● Aural Speculum (size 1 – 5)</li> <li>● Ear Forceps</li> <li>● Kidney Dish</li> <li>● Gauze</li> <li>● Dressing Towel</li> <li>● Cotton Balls</li> <li>● Cotton-Tipped applicator</li> <li>● Waterproof pad</li> </ul>
Prepare patient	<ul style="list-style-type: none"> <li>● Check for the correct patient, procedure and side</li> <li>● Explain about the procedure to patient / guardian and obtain verbal consent</li> <li>● Put the patient in a supine position</li> </ul>		<ul style="list-style-type: none"> <li>● Patient Examination Chair</li> <li>● Examination Couch</li> </ul>
Perform procedure	<ul style="list-style-type: none"> <li>● Perform aseptic technique:</li> </ul>		

	<ul style="list-style-type: none"> <li>➢ Hand washing</li> <li>➢ Disposable gloves</li> <li>● Clean the patient's pinna and ear canal if necessary</li> <li>● Place a dressing towel over the shoulder</li> <li>● Ask the patient to turn the head to the opposite side so that the ear to be examined is facing upwards</li> <li>● In uncooperative patient or pediatric age group or any difficulty: <ul style="list-style-type: none"> <li>➢ Hold the child gently and firmly in a lying position and proceed with the procedure</li> <li>➢ Abandon the procedure if patient is still uncooperative and refer back to doctor</li> </ul> </li> <li>● Straighten the ear canal by gently pulling the pinna: <ul style="list-style-type: none"> <li>➢ Upwards and backwards (adult)</li> <li>➢ Downwards and backwards (pediatric)</li> </ul> </li> <li>● Insert the appropriate ear speculum if needed</li> <li>● Look for any ear abnormalities and inform doctor</li> <li>● Proceed for the ear suctioning / toilette / removal of foreign body / ear wax as instructed by doctor using an appropriate instrument</li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies &amp; Procedures on Infection Prevention and Control 2019</li> <li>● Pain as 5<sup>th</sup> Vital Sign Guidelines 3<sup>rd</sup> Edition 2018</li> </ul>	
<b>Health education</b>	<ul style="list-style-type: none"> <li>● Ear care <ul style="list-style-type: none"> <li>➢ Avoid cotton bud application</li> <li>➢ Keep the ear dry</li> <li>➢ Avoid any FB insertion</li> </ul> </li> </ul>		
<b>Clean the instruments/ equipments</b>	<ul style="list-style-type: none"> <li>● Clean the instruments according to standard procedure</li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies &amp; Procedures on Infection Prevention and Control 2019</li> </ul>	<ul style="list-style-type: none"> <li>● Refer B.1 Procedure</li> </ul>

<b>Documentation</b>	<ul style="list-style-type: none"> <li>● Document the procedure and findings</li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
<b>References</b>	<ol style="list-style-type: none"> <li>1. <a href="https://www.hillsentinstitute.com/microscopic-ear-examination">https://www.hillsentinstitute.com/microscopic-ear-examination</a></li> <li>2. Frederik Carel van Wyk, Raphael Dikamba Muanza, Mary L Windle, Arlen D Meyers, Cerumen impaction removal, Oct 27, 2022</li> <li>3. Schwartz SR, Magit AE, Rosenfeld RM, Ballachanda BB, Hackell JM, Krouse HJ, et al. Clinical Practice Guideline (Update): Earwax (Cerumen Impaction). <i>Otolaryngol Head Neck Surg.</i> 2017 Jan. 156 (1_suppl):S1-S29.</li> <li>4. Poulton S, Yau S, Anderson D, Bennett D. Ear wax management. <i>Aust Fam Physician.</i> 2015 Oct. 44 (10):731-4.</li> <li>5. Schwartz SR, Magit AE, Rosenfeld RM, et al. Clinical Practice Guideline(update). <i>Otolaryngol Head Neck Surgery.</i> 2017. 156:14.</li> </ol>		

<b>OBJECTIVE</b>	To insert the ear packing safely to mitigate swelling in the ear canal and/or arrest of ear bleeding while ensuring the patient safety and comfort.
<b>SCOPE</b>	Every patient who exhibits soft tissue swelling or bleeding in the ear canal.
<b>FLOW CHART</b>	<pre> graph TD     Start([START]) --&gt; A[Receive Doctor's Instruction]     A --&gt; B[Registration]     B --&gt; C[Assessment / Examination]     C --&gt; D[Prepare Equipment]     D --&gt; E[Perform Procedure]     E --&gt; F{Difficulty / pediatric patient}     F -- YES --&gt; G[Refer Doctor]     F -- NO --&gt; H[Health Education]     H --&gt; I[Clean the Instrument]     I --&gt; J[Documentation]     G --&gt; J     J --&gt; End([END])   </pre>

## B.4.1 | WORK PROCESS OF INSERTION OF EAR PACKING

ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT
Receive Instruction	<ul style="list-style-type: none"> <li>● Read and understand doctor's instruction</li> </ul>	<ul style="list-style-type: none"> <li>● Pain as 5<sup>th</sup> Vital Sign Guidelines 3<sup>rd</sup> Edition 2018</li> </ul>	<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
Registration	<ul style="list-style-type: none"> <li>● Register patient in the procedure book</li> <li>● Patient's particular:                             <ul style="list-style-type: none"> <li>➢ Date</li> <li>➢ Name</li> <li>➢ RN / IC</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>● PPE</li> <li>● Otoscope</li> <li>● Aural Speculum</li> <li>● Head Light</li> </ul>
Assessment / Examination	<ul style="list-style-type: none"> <li>● Assess the patient's pinna and ear canal for abnormalities:                             <ul style="list-style-type: none"> <li>➢ Pinna swelling / lesion</li> <li>➢ Pinna tenderness</li> <li>➢ Ear discharge / bleeding</li> </ul> </li> <li>● <b>Caution</b> <ul style="list-style-type: none"> <li>➢ Bleeding from ear due to trauma</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>● PPE</li> <li>● Diagnostic Microscope</li> <li>● Aural Suction Cannula with Tip</li> <li>● Suction Machine</li> <li>● Suction Tubing</li> <li>● Aural Speculum (size 1 – 5)</li> <li>● Kidney Dish</li> <li>● Gauze</li> <li>● Dressing Towel</li> <li>● Aural Forceps</li> <li>● ½ inch Ribbon Gauze</li> <li>● Ichthammol Glycerin</li> <li>● Ear wick or BIPP</li> </ul>
Prepare equipments/ instruments	<ul style="list-style-type: none"> <li>● Prepare and check equipments / instruments                             <ul style="list-style-type: none"> <li>➢ Adequate brightness</li> <li>➢ Functioning well</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>● Patient Examination Chair</li> <li>● Examination Couch</li> </ul>
Prepare patient	<ul style="list-style-type: none"> <li>● Check for the correct patient, procedure and side</li> <li>● Explain about the procedure to patient / guardian and obtain verbal consent</li> </ul>		

	<ul style="list-style-type: none"> <li>● Put the patient in a sitting / supine position</li> </ul>		
<b>Perform procedure</b>	<ul style="list-style-type: none"> <li>● Perform aseptic technique:             <ul style="list-style-type: none"> <li>➢ Hand washing</li> <li>➢ Disposable gloves</li> </ul> </li> <li>● Clean the patient's pinna and ear canal if necessary</li> <li>● Place a dressing towel over the shoulder</li> <li>● Ask the patient to turn the head to the opposite side so that the ear can be examined is facing upwards</li> <li>● In uncooperative patient or pediatric age group or any difficulty:             <ul style="list-style-type: none"> <li>➢ Hold the child gently and firmly in a lying position and proceed with the procedure</li> <li>➢ Abandon the procedure if patient is still uncooperative and refer back to doctor</li> </ul> </li> <li>● Straighten ear canal by gently pulling the pinna:             <ul style="list-style-type: none"> <li>➢ Upwards and backwards (adult)</li> <li>➢ Downwards and backwards (pediatric)</li> </ul> </li> <li>● Insert the ear packing</li> <li>● Refer doctor for any complications after the procedure:             <ul style="list-style-type: none"> <li>➢ Ear pain</li> <li>➢ Trauma to ear canal or tympanic membrane</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies &amp; Procedures on Infection Prevention and Control 2019</li> <li>● Pain as 5<sup>th</sup> Vital Sign Guidelines 3<sup>rd</sup> Edition 2018</li> </ul>	
<b>Health education</b>	<ul style="list-style-type: none"> <li>● Ear care             <ul style="list-style-type: none"> <li>➢ Do not remove the ear pack</li> <li>➢ Compliance with medication</li> <li>➢ Keep ear dry</li> </ul> </li> </ul>		
<b>Clean the Instrument</b>	<ul style="list-style-type: none"> <li>● Clean the instruments according standard procedure</li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies &amp; Procedures on Infection Prevention and Control 2019</li> </ul>	<ul style="list-style-type: none"> <li>● Refer B.1 Procedure</li> </ul>

<p><b>Documentation</b></p>	<ul style="list-style-type: none"> <li>● Document the procedure and findings</li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
<p><b>References</b></p>	<ol style="list-style-type: none"> <li>1. Shen Y, Mei Teh BM, Friedland PL, Eikelboom RH, Atlas MD. To pack or not to pack? A contemporary review of middle ear packing agents. <i>Laryngoscope</i>. 2011;121(5)</li> <li>2. Linstrom JC, Lucento EF (2006) Infections of the external ear. Byron J. Bailey and Jonas T Johnson's <i>Head and Neck Surgery—Otolaryngology</i>. 4th edn. vol 1. Lippincott Williams and Wilkins, Philadelphia, pp 1989–1990</li> <li>3. Nilssen E, Wormald PJ, Oliver S. Glycerol and ichthammol: medicinal solution or mythical potion? <i>J Laryngol and Otol</i>.</li> <li>4. Roland PS, Younis R, Wall GM. A comparison of ciprofloxacin/dexamethasone with neomycin/polymyxin/hydrocortisone for otitis externa pain. <i>Adv Ther</i>. 2007;24(3):671–675</li> <li>5. Rusenfeld RM, Singer M, Wasserman JM, Stinnett SS. Systematic review of topical antimicrobial therapy for acute otitis externa. <i>Otolaryngol Head Neck Surg</i>. 2006;134(4 Suppl):S24–S48.</li> </ol>		

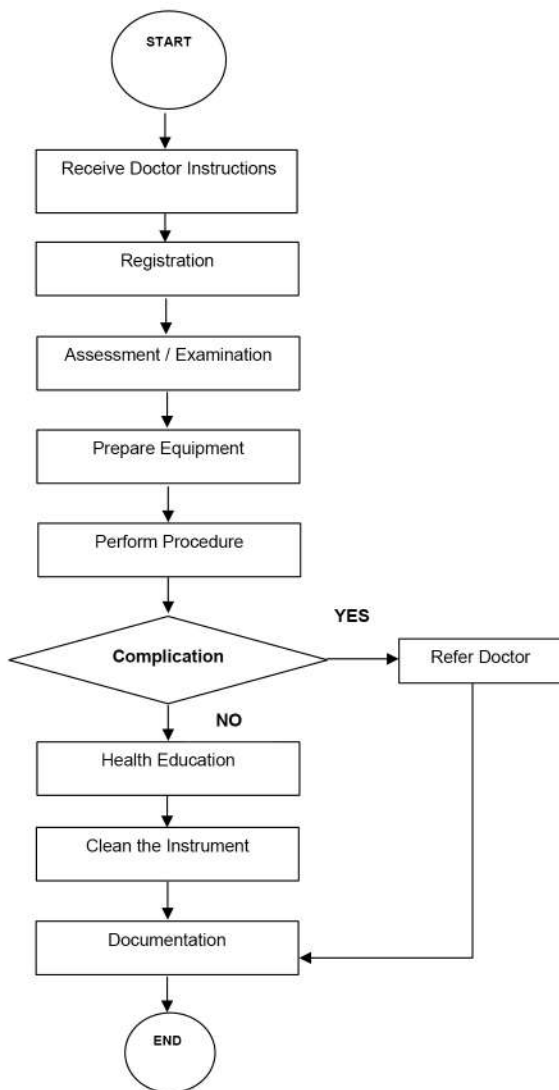
OBJECTIVE

To remove ear packing and examine ear canal for the evaluation.

SCOPE

All patient who had undergone ear packing procedure.

FLOW CHART



## B.5.1 | WORK PROCESS OF REMOVAL OF EAR PACKING

ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT
Receive Instruction	<ul style="list-style-type: none"> <li>Read and understand doctor's instruction</li> </ul>		<ul style="list-style-type: none"> <li>Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>HIS / EMR / Procedure Registration Book</li> </ul>
Registration	<ul style="list-style-type: none"> <li>Register patient in the procedure book</li> <li>Patient's particular:                             <ul style="list-style-type: none"> <li>➢ Date</li> <li>➢ Name</li> <li>➢ RN / IC</li> </ul> </li> </ul>		
Assessment / Examination	<ul style="list-style-type: none"> <li>Assess the patient's general condition of the ear</li> </ul>	<ul style="list-style-type: none"> <li>Pain as 5<sup>th</sup> Vital Sign Guidelines 3<sup>rd</sup> Edition 2018</li> </ul>	<ul style="list-style-type: none"> <li>PPE</li> <li>Otoscope</li> <li>Head Light</li> </ul>
Prepare equipments / instruments	<ul style="list-style-type: none"> <li>Prepare and check equipments / instruments                             <ul style="list-style-type: none"> <li>➢ Adequate brightness</li> <li>➢ Functioning well</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>MOH Policies &amp; Procedures on Infection Prevention and Control 2019</li> </ul>	<ul style="list-style-type: none"> <li>PPE</li> <li>Diagnostic Microscope</li> <li>Aural Suction Cannula with Tip</li> <li>Suction Machine</li> <li>Suction Tubing</li> <li>Aural Speculum (size 1 – 5)</li> <li>Kidney Dish</li> <li>Gauze</li> <li>Dressing Towel</li> <li>Aural Forceps</li> <li>½ inch Ribbon Gauze</li> <li>Ear Wick</li> </ul>
Prepare patient	<ul style="list-style-type: none"> <li>Check for the correct patient, procedure and side</li> <li>Explain about the procedure to patient / guardian and obtain verbal consent</li> <li>Put the patient in a sitting / supine position</li> </ul>		<ul style="list-style-type: none"> <li>Patient Examination Chair</li> <li>Examination Couch</li> </ul>
Perform procedure	<ul style="list-style-type: none"> <li>Perform under aseptic technique of:                             <ul style="list-style-type: none"> <li>➢ Hand washing</li> <li>➢ Put on disposable gloves</li> <li>➢ Clean the patient's pinna and ear canal if necessary</li> <li>➢ Place a dressing towel over the shoulder</li> </ul> </li> </ul>		

	<ul style="list-style-type: none"> <li>● Ask the patient to turn the head to the opposite side so that the ear to be examined is facing upwards</li> <li>● In uncooperative patient or pediatric age group or any difficulty: <ul style="list-style-type: none"> <li>➢ Hold the child gently and firmly in a lying position and proceed with the procedure</li> <li>➢ Abandon the procedure if patient is still uncooperative and refer back to doctor</li> </ul> </li> <li>● Straighten ear canal by gently pulling the pinna: <ul style="list-style-type: none"> <li>➢ Upwards and backwards (adult)</li> <li>➢ Downwards and backwards (pediatric)</li> </ul> </li> <li>● Remove ear packing using aural forceps and do ear toileting (if necessary) and inform doctor</li> <li>● Refer doctor if any complications after the procedure: <ul style="list-style-type: none"> <li>➢ Ear pain</li> <li>➢ Trauma to the ear canal</li> <li>➢ Ear bleeding</li> </ul> </li> </ul>		
<b>Health education</b>	<ul style="list-style-type: none"> <li>● Ear care <ul style="list-style-type: none"> <li>➢ Keep ear dry</li> <li>➢ Avoid ear digging</li> <li>➢ To comply with medications (if any)</li> </ul> </li> </ul>		
<b>Clean the Instrument</b>	<ul style="list-style-type: none"> <li>● Clean the instruments according standard procedure</li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies &amp; Procedures on Infection Prevention and Control 2019</li> </ul>	<ul style="list-style-type: none"> <li>● Refer B.1 Procedure</li> </ul>
<b>Documentation</b>	<ul style="list-style-type: none"> <li>● Document the procedure and findings</li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>

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2. Cho YS, Lee HS, Hong SH, Chung WH, Min JY, Hwang SJ. Effects of packing on the postoperative hearing after middle ear surgery. *Acta Otolaryngol Suppl.* 2007;(558):67–72
3. Lou Z. The effect of external auditory canal packing duration on healing after endoscopic cartilage myringoplasty. *Ear Nose Throat J.* 2021;100(9)
4. Minoda R, Haruno T, Miwa T, Kumai Y, Sanuki T, Yumoto E. External auditory canal stenting utilizing a useful rolled, tapered Silastic sheet (RTSS) post middle ear surgery. *Auris Nasus Larynx.* 2010;37(6)
5. Borgstein J, de Zwart G, Bruce IA. Ear packing after ear surgery: is it really necessary? *J Laryngol Otol.* 2008;122(3):253–254..
6. Wang D, Ren T, Wang W. The outcomes of endoscopic myringoplasty: packing with gelatin sponge versus packing with nothing. *Acta Otolaryngol.* 2020;140(4):292–296

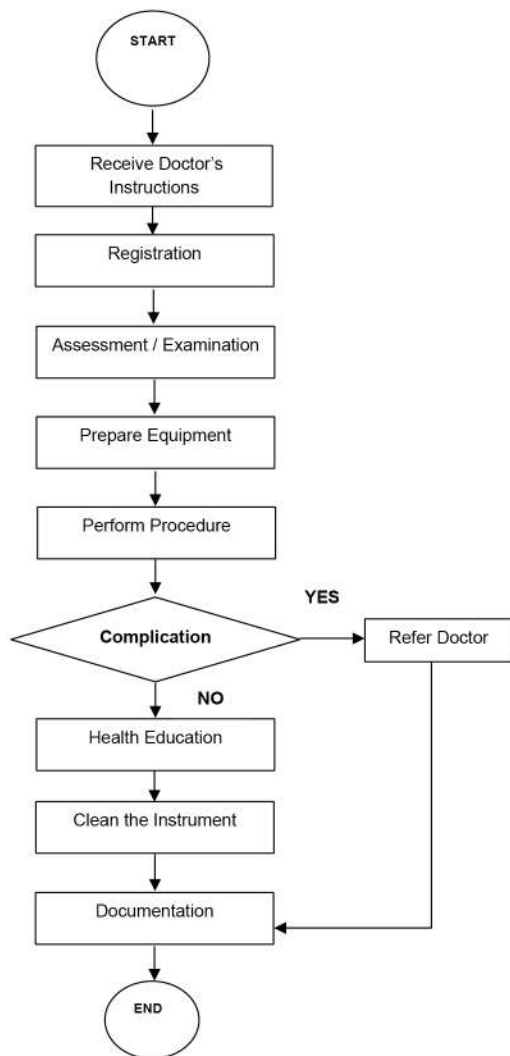
## OBJECTIVE

To remove ear cerumen / wax, discharge, keratin or debris in the external auditory canal to facilitate hearing assessment while ensuring the patient safety and comfort.

## SCOPE

All patients with cerumen/wax, discharge, keratin, or debris in the external auditory canal as ordered by doctor.

## FLOW CHART



**B.6.1 | WORK PROCESS OF REMOVAL OF EAR WAX**

ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT
Receive Instruction	<ul style="list-style-type: none"> <li>● Read and understand doctor's instructions</li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies &amp; Procedures on Infection Prevention and Control 2019</li> </ul>	<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
Registration	<ul style="list-style-type: none"> <li>● Register patient in the procedure book</li> <li>● Patient's particular:                             <ul style="list-style-type: none"> <li>➢ Date</li> <li>➢ Name</li> <li>➢ RN / IC</li> </ul> </li> </ul>		
Assessment / Examination	<ul style="list-style-type: none"> <li>● Assess the patient's pinna and ear canal for abnormalities eg: ear cerumen/wax, redness, discharge and tenderness</li> </ul>		<ul style="list-style-type: none"> <li>● PPE</li> <li>● Otoscope</li> <li>● Head Light</li> </ul>
Prepare equipments / instruments	<ul style="list-style-type: none"> <li>● Prepare and check equipments / instruments                             <ul style="list-style-type: none"> <li>➢ Adequate brightness</li> <li>➢ Functioning well</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>● PPE</li> <li>● Diagnostic Microscope</li> <li>● Aural Suction Cannula with Tip</li> <li>● Suction Machine</li> <li>● Suction Tubing</li> <li>● Aural Speculum (size 1 – 5)</li> <li>● Kidney Dish</li> <li>● Gauze</li> <li>● Dressing Towel</li> <li>● Jobson Home</li> <li>● Right Angled Aural Hook</li> <li>● Aural Forceps</li> </ul>
Prepare patient	<ul style="list-style-type: none"> <li>● Check for the correct patient, procedure and side</li> <li>● Explain about the procedure to patient / guardian and obtain verbal consent</li> <li>● Put the patient in a sitting / supine position</li> </ul>		<ul style="list-style-type: none"> <li>● Patient Examination Chair</li> <li>● Examination Couch</li> </ul>
Perform procedure	<ul style="list-style-type: none"> <li>● Perform aseptic technique:                             <ul style="list-style-type: none"> <li>➢ Hand washing</li> <li>➢ Disposable gloves</li> </ul> </li> <li>● Clean the patient's pinna and ear canal if necessary</li> </ul>		

	<ul style="list-style-type: none"> <li>● Place a dressing towel over the shoulder</li> <li>● Ask the patient to turn the head to the opposite side so that the ear to be examined is facing upwards</li> <li>● In uncooperative patient or pediatric age group or any difficulty:</li> <li>● Hold the child gently and firmly in a lying position and proceed with the procedure</li> <li>● Abandon the procedure if patient is still uncooperative and refer back to doctor</li> <li>● Straighten ear canal by gently pulling the pinna:             <ul style="list-style-type: none"> <li>➢ Upwards and backwards (adult)</li> <li>➢ Downwards and backwards (pediatric)</li> </ul> </li> <li>● Perform the ear wax removal or ear toilette using appropriate instruments</li> <li>● Caution:             <ul style="list-style-type: none"> <li>➢ Hard impacted wax</li> <li>➢ Deep seated wax</li> </ul> </li> <li>● Refer doctor if any complication occurs after the procedure:             <ul style="list-style-type: none"> <li>➢ Ear pain</li> <li>➢ Trauma to the ear canal or tympanic membrane</li> <li>➢ Ear bleeding</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Pain as 5<sup>th</sup> Vital Sign Guidelines 3<sup>rd</sup> Edition 2018</li> </ul>	
<b>Health education</b>	<ul style="list-style-type: none"> <li>● Ear care             <ul style="list-style-type: none"> <li>➢ Keep the ear dry</li> <li>➢ Avoid ear digging</li> <li>➢ To comply with medications (if any)</li> </ul> </li> </ul>		
<b>Clean the Instrument</b>	<ul style="list-style-type: none"> <li>● Clean the instruments according standard procedure</li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies &amp; Procedures on Infection Prevention and Control 2019</li> </ul>	<ul style="list-style-type: none"> <li>● Refer B.1 Procedure</li> </ul>

<p><b>Documentation</b></p>	<ul style="list-style-type: none"> <li>● Document the procedure and findings</li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip)</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
<p><b>References</b></p>	<ol style="list-style-type: none"> <li>1. Schwartz SR, Magit AE, Rosenfeld RM, Ballachanda BB, Hackell JM, Krouse HJ, et al. Clinical Practice Guideline (Update): Earwax (Cerumen Impaction). <i>Otolaryngol Head Neck Surg.</i> 2017 Jan. 156 (1_suppl):S1-S29.</li> <li>2. Poulton S, Yau S, Anderson D, Bennett D. Ear wax management. <i>Aust Fam Physician.</i> 2015 Oct. 44 (10):731-4.</li> <li>3. McCarter DF, Courtney AU, Pollart SM. Cerumen impaction. <i>Am Fam Physician.</i> 2007 May 15. 75(10):1523-8.</li> <li>4. Roland PS, Smith TL, Schwartz SR, Rosenfeld RM, Ballachanda B, Earll JM, et al. Clinical practice guideline: cerumen impaction. <i>Otolaryngol Head Neck Surg.</i> 2008 Sep. 139(3 Suppl 2):S1-S21.</li> <li>5. Mitika M. Cerumen removal guidelines wax practical. <i>JAMA.</i> 2008. 300:1506.</li> <li>6. Burton MJ, Doree C. Ear drops for the removal of ear wax. <i>Cochrane Database Syst Rev.</i> 2009 Jan 21. CD004326.</li> </ol>		

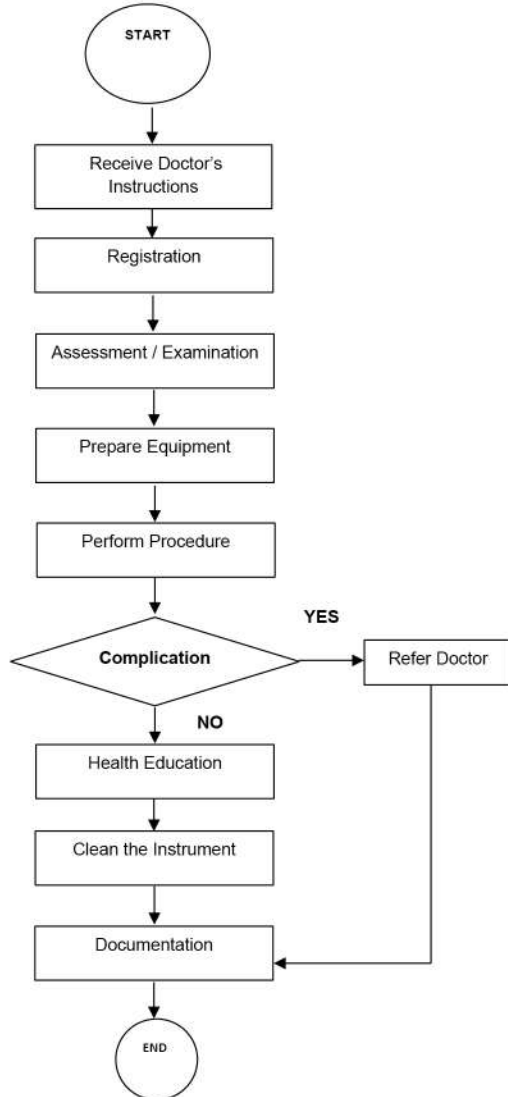
## OBJECTIVE

To remove any foreign body from external auditory canal while ensuring patient's safety and comfort.

## SCOPE

All patients with foreign body in the ear.

## FLOW CHART



**B.7.1 | WORK PROCESS OF REMOVAL FOREIGN BODY EAR**

ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT
<b>Receive Instruction</b>	<ul style="list-style-type: none"> <li>● Read and understand doctor's instruction</li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies &amp; Procedures on Infection Prevention and Control 2019</li> </ul>	<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
<b>Registration</b>	<ul style="list-style-type: none"> <li>● Register patient in the procedure book</li> <li>● Patient's particular:                             <ul style="list-style-type: none"> <li>➢ Date</li> <li>➢ Name</li> <li>➢ RN / IC</li> </ul> </li> </ul>		
<b>Assessment /Examination</b>	<p>Assess the patient's pinna and ear canal for abnormalities eg: redness, discharge, FB and tenderness</p> <ul style="list-style-type: none"> <li>● Identify the type and position of foreign body:                             <ul style="list-style-type: none"> <li>● Impacted</li> <li>● Deep seated</li> <li>● Organic vs non-organic</li> <li>● Animate vs non – animate</li> </ul> </li> <li>● <b>CAUTION:</b> <ul style="list-style-type: none"> <li>● Animate FB – drown using solution</li> <li>● Organic material eg: beans – avoid syringing</li> <li>● Button battery may cause extensive erosion and damage to the surrounding structure</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● PPE</li> <li>● Otoscope</li> <li>● Head Light</li> </ul>	

<p><b>Prepare equipments / instruments</b></p>	<ul style="list-style-type: none"> <li>● Prepare and check equipments / instruments             <ul style="list-style-type: none"> <li>➢ Adequate brightness</li> <li>➢ Functioning well</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Pain as 5<sup>th</sup> Vital Sign Guidelines 3<sup>rd</sup> Edition 2018</li> </ul>	<ul style="list-style-type: none"> <li>● PPE</li> <li>● Diagnostic Microscope</li> <li>● Aural Suction Cannula with Tip</li> <li>● Suction Machine</li> <li>● Suction Tubing</li> <li>● Aural Speculum (size 1 – 5)</li> <li>● Aural Forceps</li> <li>● Jobson Horne Probe</li> <li>● Right Angled Aural Hook</li> <li>● Kidney Dish</li> <li>● Gauze</li> <li>● Dressing Towel</li> <li>● Aural Forceps</li> <li>● Ribbon Gauze</li> </ul>
<p><b>Prepare patient</b></p>	<ul style="list-style-type: none"> <li>● Check for the correct patient, procedure and side</li> <li>● Explain about the procedure to patient / guardian and obtain verbal consent</li> <li>● Put the patient in a sitting / supine position</li> </ul>		<ul style="list-style-type: none"> <li>● Patient Examination Chair</li> <li>● Examination Couch</li> </ul>
<p><b>Perform procedure</b></p>	<ul style="list-style-type: none"> <li>● Perform aseptic technique:             <ul style="list-style-type: none"> <li>➢ Hand washing</li> <li>➢ Disposable gloves</li> </ul> </li> <li>● Clean the patient's outer ear and ear canal if necessary</li> <li>● Place a dressing towel over the shoulder.</li> <li>● In uncooperative patient or pediatric age group or any difficulty:</li> <li>● Hold the child gently and firmly in a lying position and proceed with the procedure</li> <li>● Abandon the procedure if patient is still uncooperative and refer back to doctor (perform under GA is recommended)</li> <li>● Straighten ear canal by gently pulling the pinna:             <ul style="list-style-type: none"> <li>➢ Upwards and backwards (adult)</li> <li>➢ Downwards and backwards (pediatric)</li> </ul> </li> </ul>		

	<ul style="list-style-type: none"> <li>● Remove foreign body using an appropriate instrument according to type of foreign body, eg:             <ul style="list-style-type: none"> <li>➢ Rounded / solid FB – Jobson Horne probe or aural hook</li> <li>➢ Cotton/paper/thin – Crocodile forceps</li> </ul> </li> <li>● If need foreign body removal by syringing procedure refer to B2 procedure</li> <li>● Refer doctor if any complication occurs after the procedure:             <ul style="list-style-type: none"> <li>➢ Ear pain</li> <li>➢ Trauma to the ear canal or tympanic membrane</li> <li>➢ Ear bleeding</li> <li>➢ Failure of the procedure</li> </ul> </li> </ul>		
<b>Health education</b>	<ul style="list-style-type: none"> <li>● Ear care             <ul style="list-style-type: none"> <li>➢ Avoid ear digging using cotton bud</li> <li>➢ Awareness to patient/parents</li> <li>➢ Keep ear dry</li> </ul> </li> </ul>		
<b>Clean the Instrument</b>	<ul style="list-style-type: none"> <li>● Clean the instruments according to standard procedure</li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies &amp; Procedures on Infection Prevention and Control 2019</li> </ul>	<ul style="list-style-type: none"> <li>● Refer B.1 Procedure</li> </ul>
<b>Documentation</b>	<ul style="list-style-type: none"> <li>● Document the procedure and findings</li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
<b>References</b>	<ol style="list-style-type: none"> <li>1. Oyama LC. Foreign Bodies of the Ear, Nose and Throat. <i>Emerg Med Clin North Am.</i> 2019 Feb. 37 (1):121-130.</li> <li>2. Figueiredo RR, Azevedo AA, Kos AO, Tomita S. Complications of ent foreign bodies: a retrospective study. <i>Braz J Otorhinolaryngol.</i> 2008 Jan-Feb. 74(1):7-15.</li> <li>3. Mingo K, Eleff D, Anne S, Osborne K. Pediatric ear foreign body retrieval: A comparison across specialties. <i>Am J Otolaryngol.</i> 2020 Mar-Apr. 41 (2):102167.</li> <li>4. Thompson SK, Wein RO, Dutcher PO. External auditory canal foreign body removal: management practices and outcomes. <i>Laryngoscope.</i> 2003 Nov. 113(11):1912-5.</li> </ol>		

<b>OBJECTIVE</b>	To remove anterior nasal packing safely.
<b>SCOPE</b>	All patients who had undergone anterior nasal packing.
<b>FLOW CHART</b>	<pre> graph TD     Start((START)) --&gt; A[Receive Doctor's Instruction]     A --&gt; B[Registration]     B --&gt; C[Assessment / Examination]     C --&gt; D[Prepare Equipment]     D --&gt; E[Perform Procedure]     E --&gt; F{Complication}     F -- YES --&gt; G[Refer Doctor]     F -- NO --&gt; H[Health Education]     H --&gt; I[Clean the Instrument]     I --&gt; J[Documentation]     G --&gt; J     J --&gt; End((END))   </pre>

**B.8.1 | WORK PROCESS OF REMOVAL ANTERIOR NASAL PACKING**

ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT
Receive Instruction	<ul style="list-style-type: none"> <li>● Read and understand doctor's instruction</li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies &amp; Procedures on Infection Prevention and Control 2019</li> </ul>	<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
Registration	<ul style="list-style-type: none"> <li>● Register patient in the procedure book</li> <li>● Patient's particular:                             <ul style="list-style-type: none"> <li>➢ Date</li> <li>➢ Name</li> <li>➢ RN / IC</li> </ul> </li> </ul>		
Assessment / Examination	<ul style="list-style-type: none"> <li>● Assess the patient's nose                             <ul style="list-style-type: none"> <li>➢ Type of nasal packing used</li> <li>➢ Redness</li> <li>➢ Tenderness</li> <li>➢ Nasal discharge</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>● Headlight</li> <li>● PPE</li> <li>● Nasal Speculum</li> <li>● Nasal Suction</li> <li>● Suction Tubing</li> <li>● Suction Machine</li> <li>● Tilley's Forceps</li> <li>● Kidney Dish</li> <li>● Gauze</li> <li>● Distill Water</li> <li>● Lubricating Gel</li> <li>● Liquid Paraffin</li> <li>● Ice Pack</li> <li>● Nasal Packing (standby)</li> </ul>
Prepare equipments / instruments	<ul style="list-style-type: none"> <li>● Prepare and check the instruments                             <ul style="list-style-type: none"> <li>➢ Adequate brightness</li> <li>➢ Functioning well</li> </ul> </li> </ul>		
Prepare patient	<ul style="list-style-type: none"> <li>● Check for the correct patient, procedure and side</li> <li>● Explain about the procedure to patient / guardian and obtain verbal consent</li> <li>● Put patient on sitting position</li> </ul>		
Perform procedure	<ul style="list-style-type: none"> <li>● Perform aseptic technique:                             <ul style="list-style-type: none"> <li>➢ Hand washing</li> <li>➢ Disposable gloves</li> </ul> </li> <li>● Place a plastic apron on the patient</li> <li>● Clean the patient's nose if necessary</li> <li>● Flush the packing</li> </ul>	<ul style="list-style-type: none"> <li>● Distill Water</li> <li>● Liquid Paraffin</li> </ul>	

	<p>before removal</p> <ul style="list-style-type: none"> <li>• In uncooperative patient or paediatric age group or any difficulty:</li> <li>• Hold the child gently and firmly in a sitting position and proceed with the procedure</li> <li>• Remove nasal packing using nasal forceps or by pulling the strings attached to the nasal packing</li> <li>• Place ice pack over forehead and perform <b>Trotter's method:</b> (Pinching the nose constantly with head bend down, body lean forward and breath through the mouth)</li> <li>• Refer doctor if bleeding persist after 10 minutes</li> </ul>	<ul style="list-style-type: none"> <li>• Pain as 5<sup>th</sup> Vital Sign Guidelines 3<sup>rd</sup> Edition 2018</li> </ul>	
<b>Health education</b>	<ul style="list-style-type: none"> <li>• Nose care <ul style="list-style-type: none"> <li>➢ Trotter's method</li> <li>➢ Avoid blowing of the nose</li> <li>➢ Avoid rubbing of the nose</li> </ul> </li> </ul>		
<b>Clean the Instrument</b>	<ul style="list-style-type: none"> <li>• Clean the instruments according to standard procedure</li> </ul>	<ul style="list-style-type: none"> <li>• MOH Policies &amp; Procedures on Infection Prevention and Control 2019</li> </ul>	<ul style="list-style-type: none"> <li>• Refer B.1 Procedure</li> </ul>
<b>Documentation</b>	<ul style="list-style-type: none"> <li>• Document the procedure and findings</li> </ul>		<ul style="list-style-type: none"> <li>• Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip)</li> <li>• HIS / EMR / Procedure Registration Book</li> </ul>
<b>References</b>	<ol style="list-style-type: none"> <li>1. Effect of prilocaine and its combination with tramadol on anxiety and pain during nasal packing removal, Kamil Gokce Tulaci, Erhan Arslan, Hasmet Yazici, <i>European Archives of Oto-Rhino-Laryngology</i> (2020).</li> <li>2. The influence of standardized dry ivy leaf extract on the proportion of nasal secretion after post-septoplasty nasal packing removal, Slobodan Savović, Milica Paut Kusturica, Aleksandar Rašković, <i>Brazilian Journal of Otorhinolaryngology</i> (2019)</li> <li>3. Does glycerol have an effect on pain during nasal packing removal, Sanem Okşan Erkan, Birgül Tuhanioğlu, Orhan Görgülü, <i>Turkish Jou</i></li> <li>4. The Effect of Nasal Packing Removal on Patients Anxiety, Caner Sahin, Hatice Aras, <i>Medical Archives (2015)rnal of Medical Sciences</i> (2018)</li> </ol>		

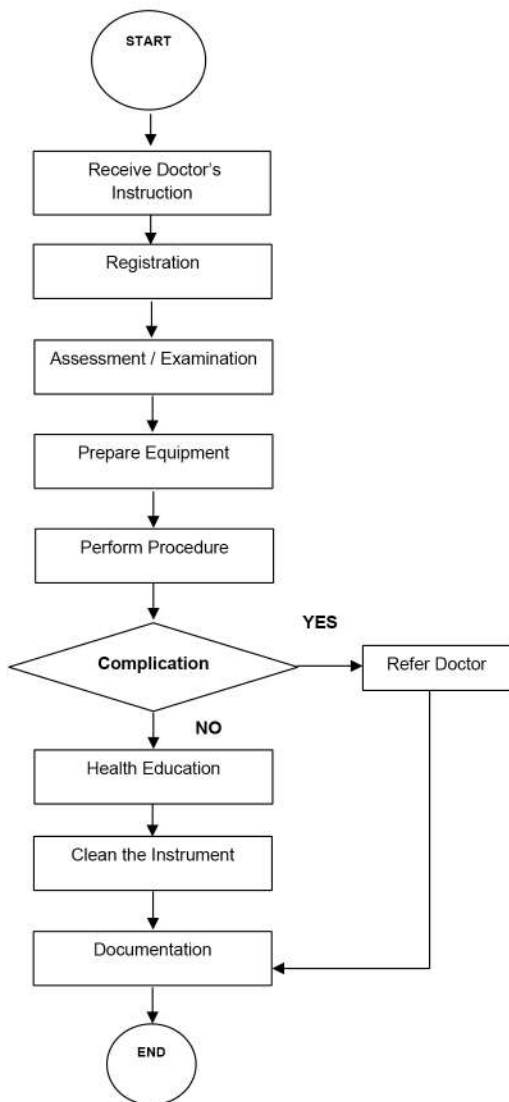
## OBJECTIVE

To remove any foreign body from nasal cavity while ensuring patient's safety and comfort.

## SCOPE

All patients with foreign body in the nose.

## FLOW CHART



## B.9.1 | WORK PROCESS OF REMOVAL FOREIGN BODY NOSE

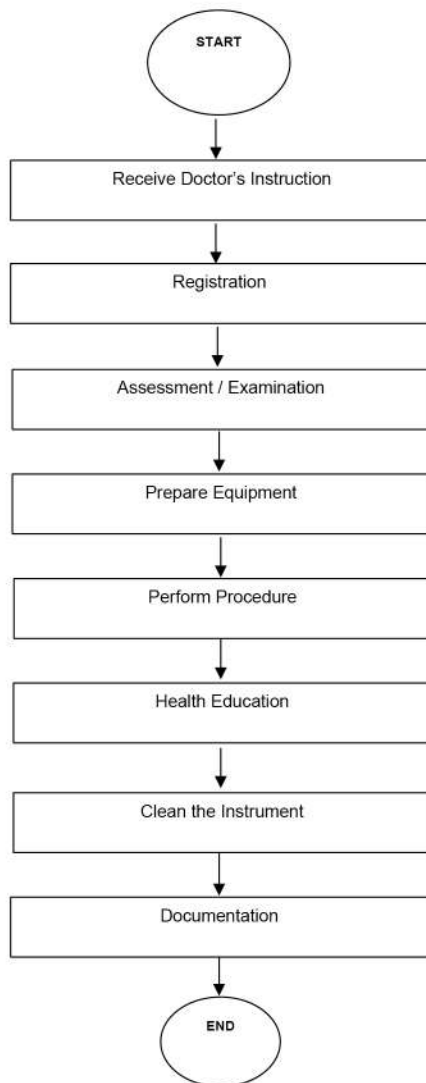
ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT
Receive Instruction	<ul style="list-style-type: none"> <li>● Read and understand doctor's instruction</li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
Registration	<ul style="list-style-type: none"> <li>● Register patient in the procedure book</li> <li>● Patient's particular:                             <ul style="list-style-type: none"> <li>➢ Date</li> <li>➢ Name</li> <li>➢ RN / IC</li> </ul> </li> </ul>		
Assessment / Examination	<ul style="list-style-type: none"> <li>● Assess the patient's nose                             <ul style="list-style-type: none"> <li>➢ Redness</li> <li>➢ Swelling</li> <li>➢ Nasal discharge</li> <li>➢ Tenderness</li> </ul> </li> <li>● Identify the type and position of foreign body:                             <ul style="list-style-type: none"> <li>➢ Impacted</li> <li>➢ Deep seated</li> <li>➢ Organic vs non-organic</li> </ul> </li> <li>● <b>Button battery</b> may cause extensive erosion and damage to the surrounding structure</li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies &amp; Procedures On Infection Prevention and Control 2019</li> </ul>	<ul style="list-style-type: none"> <li>● PPE</li> <li>● Headlight</li> <li>● Nasal Speculum</li> <li>● PPE</li> <li>● Nasal Speculum</li> <li>● Nasal Suction</li> <li>● Suction Tubing</li> <li>● Suction Machine</li> <li>● Tilley's Forceps</li> <li>● Jobson Home Probe</li> <li>● Kidney Dish</li> <li>● Gauze</li> <li>● Plastic Apron</li> <li>● Ice Pack</li> <li>● Nasal Packing (standby)</li> </ul>
Prepare equipments / instruments	<ul style="list-style-type: none"> <li>● Prepare and check the instruments                             <ul style="list-style-type: none"> <li>➢ Adequate brightness</li> <li>➢ Functioning well</li> </ul> </li> </ul>		
Prepare patient	<ul style="list-style-type: none"> <li>● Check for the correct patient, procedure and side</li> <li>● Explain about the procedure to patient / guardian and obtain verbal consent</li> <li>● Put patient on sitting position</li> </ul>		<ul style="list-style-type: none"> <li>● Patient Examination Chair</li> <li>● Plastic Apron</li> </ul>
Perform procedure	<ul style="list-style-type: none"> <li>● Perform aseptic technique:                             <ul style="list-style-type: none"> <li>➢ Hand washing</li> <li>➢ Disposable gloves</li> </ul> </li> <li>● Place a plastic apron on the patient</li> <li>● Clean the patient's nose if necessary</li> </ul>		

	<ul style="list-style-type: none"> <li>● In uncooperative paediatric age group patient or any difficulty:             <ul style="list-style-type: none"> <li>➢ Hold the child gently and firmly in a sitting position and proceed with the procedure</li> <li>➢ Abandon the procedure if patient is still uncooperative and refer back to doctor</li> </ul> </li> <li>● <b>URGENT</b> referral to doctor if foreign body is button battery</li> <li>● Remove foreign body using an appropriate instrument</li> <li>● Refer to doctor if any complications after the procedure:             <ul style="list-style-type: none"> <li>➢ Pain</li> <li>➢ Excessive bleeding</li> <li>➢ Trauma to adjacent structure</li> <li>➢ Failure of the procedure</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Pain as 5<sup>th</sup> Vital Sign Guidelines 3<sup>rd</sup> Edition 2018</li> </ul>	
Health education	<ul style="list-style-type: none"> <li>● Nose care             <ul style="list-style-type: none"> <li>➢ Avoid blowing the nose</li> <li>➢ Avoid rubbing and nasal pricking the nose</li> <li>➢ Apply Trotter's method (Pinching the nose constantly with head bend down, body lean forward and breath through the mouth)</li> <li>➢ Seek medical attention if bleeding persist</li> </ul> </li> <li>● Parent awareness             <ul style="list-style-type: none"> <li>➢ Do not buy small toys</li> <li>➢ Keep away all small things / toys from child</li> </ul> </li> </ul>		
Clean the Instrument	<ul style="list-style-type: none"> <li>● Clean the instruments according standard procedure</li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies &amp; Procedures On Infection Prevention and Control 2019</li> </ul>	<ul style="list-style-type: none"> <li>● Refer B.1 Procedure</li> </ul>

<b>Documentation</b>	<ul style="list-style-type: none"> <li>● Document the procedure and findings</li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
<b>References</b>	<ol style="list-style-type: none"> <li>1. Ear and Nose Foreign Body Removal in Pediatric Patients, Rachael Sweeney, Rachel Helms, <i>Advanced Emergency Nursing Journal</i> (2023)</li> <li>2. The practice of foreign body removal from the ear, nose, and upper esophageal in children in Ethiopia: A retrospective descriptive study, Dereje Zewdu, Mekete Wondwosen, Diriba Teshome, <i>Laryngoscope Investigative Otolaryngology</i> (2021)</li> <li>3. Ear and Nose Foreign Body Removal in Pediatric Patients, <i>Advanced emergency nursing journal</i> (2023)</li> <li>4. Endoscopic Management of Foreign Body Nose Removal with Self Fabricated Blunt Hooks: An Experience of 1156 Cases, Rupender K Ranga, <i>Otolaryngology Open Access Journal</i> (2021)</li> <li>5. Pediatric Clinical Practice Guideline, Brighton and Sussex University Hospitals, Clinical Practice Guideline – Foreign bodies in the nose Page 1 of 2 Foreign bodies (FBs) in the nose, Author: Dr M Lazner / Mr P Das (previous author J Gray), Publication date: April 2020, Review date: April 2022</li> <li>6. How To Remove a Foreign Body From the Nose , By Waleed M Abuzeid , BSc, MBBS, University of Washington, Reviewed/Revised Nov 2020   Modified Sep 2022</li> </ol>		

<b>OBJECTIVE</b>	To ensure effectiveness and encourage care of patient who undergoes nasal douching procedure.
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<b>SCOPE</b>	All patient who had undergone post-nasal surgery or having rhinosinusitis requiring nasal douching.
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**FLOW CHART**

**B.10.1 | WORK PROCESS OF NASAL DOUCHING**

ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT	
Receive Instruction	<ul style="list-style-type: none"> <li>● Read and understand doctor's instruction</li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies &amp; Procedures On Infection Prevention and Control 2019</li> </ul>	<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>	
Registration	<ul style="list-style-type: none"> <li>● Register patient in the procedure book</li> <li>● Patient's particular:                             <ul style="list-style-type: none"> <li>➢ Date</li> <li>➢ Name</li> <li>➢ RN / IC</li> </ul> </li> </ul>			
Assessment / Examination	<ul style="list-style-type: none"> <li>● Assess the patient's anterior nasal cavity</li> </ul>			
Prepare Instruments	<ul style="list-style-type: none"> <li>● Prepare solution:                             <ul style="list-style-type: none"> <li>➢ Nasal douche bottle or syringe</li> <li>➢ Alkaline salt/ crystal</li> <li>➢ Water</li> </ul> </li> </ul>			<ul style="list-style-type: none"> <li>● PPE</li> <li>● Headlight</li> <li>● Nasal Speculum</li> <li>● Gallipot</li> <li>● Syringe 20cc or 50cc</li> <li>● Douche Bottle (if available)</li> <li>● Alkaline salts / crystals (if available)</li> <li>● Gauze</li> <li>● Plastic Apron</li> <li>● Clinical Waste plastic</li> </ul>
Prepare patient	<ul style="list-style-type: none"> <li>● Check for the correct patient and procedure</li> <li>● Explain about the procedure to patient / guardian and obtain verbal consent</li> <li>● Place patient in sitting / standing position and head bend down towards basin or lean over a sink</li> </ul>			<ul style="list-style-type: none"> <li>● Patient Examination Chair.</li> <li>● Basin / Sink</li> </ul>
Perform procedure	<ul style="list-style-type: none"> <li>● Instruct the patient to bend the head slightly forward with an open mouth and hold the breath during the procedure</li> <li>● Ask the patient to hold the basin below the chin or lean over the sink</li> <li>● Instill the syringe with alkaline douche preparation and squirt into the both nostrils alternately</li> <li>● Observe the return fluid from the nasal cavity</li> </ul>			

	<ul style="list-style-type: none"> <li>● Repeat procedure until the return fluid is clear</li> <li>● Observe for possible complications               <ul style="list-style-type: none"> <li>➢ Nasal pain</li> <li>➢ Headache</li> <li>➢ Swollen eyes</li> <li>➢ Aspiration</li> <li>➢ Bleeding</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Pain as 5<sup>th</sup> Vital Sign Guidelines 3<sup>rd</sup> Edition 2018</li> </ul>	
<b>Health education</b>	<ul style="list-style-type: none"> <li>● Nasal care               <ul style="list-style-type: none"> <li>➢ Use lukewarm water for douching</li> <li>➢ Do not use leftover and pre-prepared solution after 24 hours</li> <li>➢ Use nasal spray 10-20 minutes after nasal douche if needed</li> </ul> </li> </ul>		
<b>Clean the Instrument</b>	<ul style="list-style-type: none"> <li>● Clean the instruments according standard procedure</li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies &amp; Procedures On Infection Prevention and Control 2019</li> </ul>	<ul style="list-style-type: none"> <li>● Refer B.1 Procedure</li> </ul>
<b>Documentation</b>	<ul style="list-style-type: none"> <li>● Document the procedure and findings</li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
<b>References</b>	<ol style="list-style-type: none"> <li>1. Comparison of Conventional Nasal Douching with Corticosteroid Nasal Douching in Chronic Rhinosinusitis Patients Post Surgery, Faizah Ashfah Latief Deva, <i>Indian Journal of Otolaryngology and Head and Neck Surgery</i> (2023)</li> <li>2. Comparison of nasal douching with isotonic saline versus Ringer lactate in chronic rhinosinusitis: a randomized controlled trial, K. Paventhan, Pradeep Krishna R., Ramya Shree C. <i>International Journal of Otorhinolaryngology and Head and Neck Surgery</i> (2020)</li> <li>3. The Effectiveness of Budesonide Nasal Irrigation After Endoscopic Sinus Surgery in Chronic Allergic Rhinosinusitis with Polyps, Maheshbabu Thanneru, Sowmya Lanke, Shanti Kolavali, <i>Indian Journal of Otolaryngology and Head and Neck Surgery</i> (2020)</li> <li>4. Role of nasal douching in chronic allergic rhinitis, Dr. H.S. Bhuie, <i>Tropical Journal of Ophthalmology and Otolaryngology</i> (2019)</li> <li>5. Nasal Douching in acute Rhinosinusitis, Hildendrand T, Weber R, Heubach C, <i>Laryngo-Rhino Otol</i> (2011)</li> </ol>		

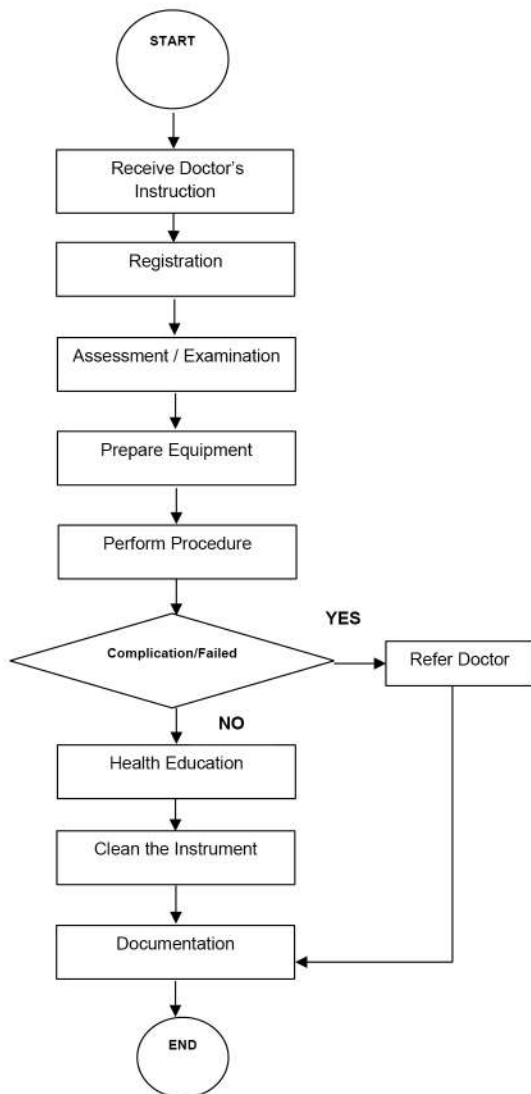
OBJECTIVE

To remove any foreign body from oropharynx while ensuring patient's safety and comfort.

SCOPE

All patients with foreign body in oropharynx.

FLOW CHART



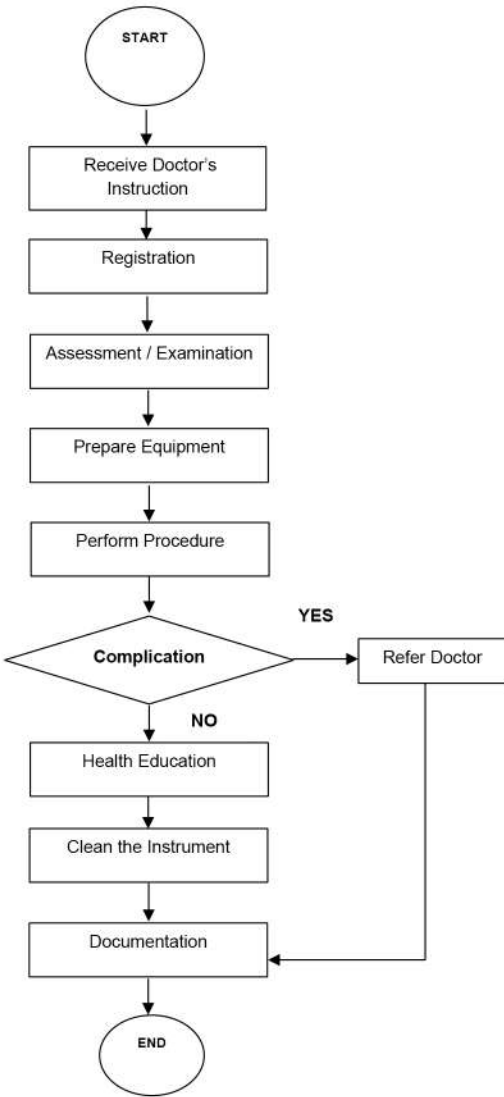
**B.11.1 | WORK PROCESS OF REMOVAL FOREIGN BODY OROPHARYNX (ADULT)**

ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT
Receive Instruction	<ul style="list-style-type: none"> <li>● Read and understand doctor's instruction</li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
Registration	<ul style="list-style-type: none"> <li>● Register patient in the procedure book</li> <li>● Patient's particular:                             <ul style="list-style-type: none"> <li>➢ Date</li> <li>➢ Name</li> <li>➢ RN / IC</li> </ul> </li> </ul>		
Assessment / Examination	<ul style="list-style-type: none"> <li>● Identify and confirm the site of the suspected area</li> <li>● Assess thoroughly oral cavity and oropharynx by looking carefully at both tonsillar fossae for foreign body, such as fish bone</li> </ul>	<ul style="list-style-type: none"> <li>● Pain as 5<sup>th</sup> Vital Sign Guidelines 3<sup>rd</sup> Edition 2018</li> </ul>	<ul style="list-style-type: none"> <li>● PPE</li> <li>● Headlight</li> <li>● Laryngeal Mirror</li> <li>● Tongue Depressor</li> <li>● Suction Cannula</li> <li>● Suction Tubing</li> <li>● Suction Machine</li> <li>● Local Anesthetic Spray e.g. Xylocaine 10%</li> <li>● Tilley's / Giraffe's Forcep</li> <li>● Kidney Dish</li> <li>● Gauze</li> <li>● Plastic Apron</li> <li>● Clinical Waste plastic</li> </ul>
Prepare equipments / instruments	<ul style="list-style-type: none"> <li>● Prepare and check the instruments:                             <ul style="list-style-type: none"> <li>➢ Adequate brightness</li> <li>➢ Functioning well</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies &amp; Procedures On Infection Prevention and Control 2019</li> </ul>	
Prepare patient	<ul style="list-style-type: none"> <li>● Check for the correct patient and procedure.</li> <li>● Explain about the procedure to patient / relative and obtain verbal consent</li> <li>● Put the patient in a sitting position with body lean forward</li> </ul>		<ul style="list-style-type: none"> <li>● Patient Examination Chair.</li> </ul>
Perform procedure	<ul style="list-style-type: none"> <li>● Perform under aseptic technique:                             <ul style="list-style-type: none"> <li>➢ hand washing</li> <li>➢ Place a plastic apron on the patient</li> <li>➢ Put on disposable gloves</li> </ul> </li> <li>● Instruct the patient to pinpoint the possible foreign body site then open the mouth and breath through it</li> </ul>		

	<ul style="list-style-type: none"> <li>● Press the tongue and inspect the area</li> <li>● If the foreign body is visualized remove it with an appropriate forcep</li> <li>● Avoid local anaesthetic spray to ensure no loss of FB sensation</li> <li>● Refer to doctor if:             <ul style="list-style-type: none"> <li>➢ Patient is uncooperative</li> <li>➢ FB is not visualized</li> <li>➢ Unable to remove the FB</li> <li>➢ Deep seated FB</li> <li>➢ Bleeding</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Pain as 5<sup>th</sup> Vital Sign Guidelines 3<sup>rd</sup> Edition 2018</li> </ul>	
<b>Health education</b>	<ul style="list-style-type: none"> <li>● Care of the affected area             <ul style="list-style-type: none"> <li>➢ Clean the throat with gargle</li> <li>➢ Avoid hot food or drink for ½ - 1 hour after if local anaesthetic spray applied</li> <li>➢ Comply with the medications if prescribed</li> <li>➢ Seek treatment if having fever or odynophagia or dysphagia</li> </ul> </li> </ul>		
<b>Clean the Instrument</b>	<ul style="list-style-type: none"> <li>● Clean the instruments according standard procedure</li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies &amp; Procedures On Infection Prevention and Control 2019</li> </ul>	<ul style="list-style-type: none"> <li>● Refer B.1 Procedure</li> </ul>
<b>Documentation</b>	<ul style="list-style-type: none"> <li>● Document the procedure and findings</li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
<b>References</b>	<ol style="list-style-type: none"> <li>1. Removal of ear, nose and throat foreign bodies: A review, Sarah Grigg, Cameron Grigg, <i>Australian journal of general practice</i> (2018)</li> <li>2. The practice of foreign body removal from the ear, nose, and upper esophageal in children in Ethiopia: A retrospective descriptive study, Dereje</li> </ol>		

Zewdu, Mekete Wondwosen, Diriba Teshome, *Laryngoscope Investigative Otolaryngology* (2021)

3. Removal of ear, nose and throat foreign bodies clinical, Sarah Grigg, Cameron Grigg, *Australian Journal of General Practice* (2018)
4. ENT foreign bodies: An experience, Al Hussein Awad, Mostafa ElTaher, *International Archives of Otorhinolaryngology* (2018)

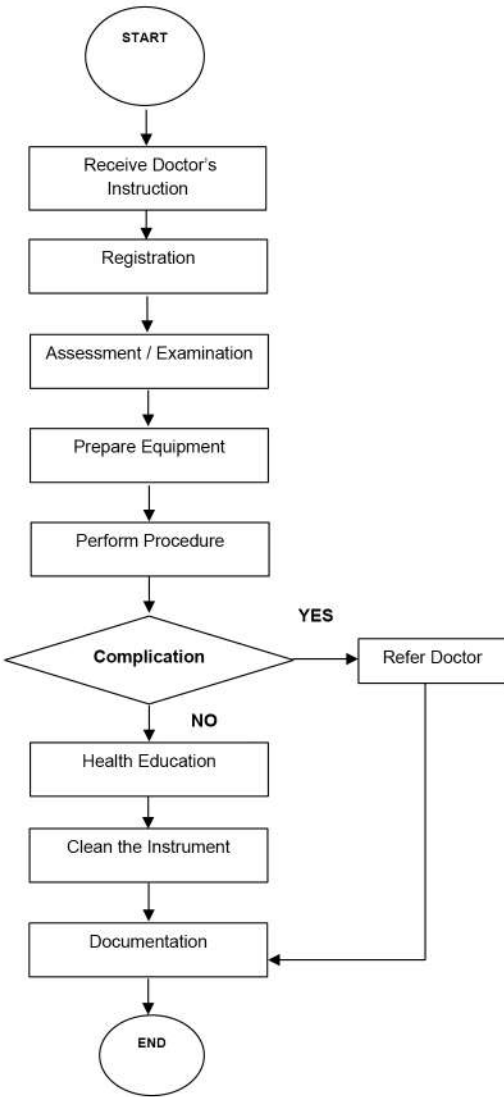
<b>OBJECTIVE</b>	To change tracheostomy tube while ensuring safety and comfort of patient.
<b>SCOPE</b>	All patients with tracheostomy tube.
<b>FLOW CHART</b>	 <pre> graph TD     Start([START]) --&gt; A[Receive Doctor's Instruction]     A --&gt; B[Registration]     B --&gt; C[Assessment / Examination]     C --&gt; D[Prepare Equipment]     D --&gt; E[Perform Procedure]     E --&gt; F{Complication}     F -- YES --&gt; G[Refer Doctor]     F -- NO --&gt; H[Health Education]     G --&gt; I[Documentation]     H --&gt; I     I --&gt; J([END])   </pre> <p>The flowchart illustrates the process of changing a tracheostomy tube. It begins with a 'START' terminal, followed by a sequence of rectangular process boxes: 'Receive Doctor's Instruction', 'Registration', 'Assessment / Examination', 'Prepare Equipment', and 'Perform Procedure'. A diamond-shaped decision box labeled 'Complication' follows. If the answer is 'YES', the flow goes to a 'Refer Doctor' box, which then leads to the 'Documentation' box. If the answer is 'NO', the flow goes directly to the 'Health Education' box. From 'Health Education', the flow proceeds to 'Clean the Instrument' and then to 'Documentation'. Finally, the 'Documentation' box leads to an 'END' terminal.</p>



Zewdu, Mekete Wondwosen, Diriba Teshome, *Laryngoscope Investigative Otolaryngology* (2021)

3. Removal of ear, nose and throat foreign bodies clinical, Sarah Grigg, Cameron Grigg, *Australian Journal of General Practice* (2018)

4. ENT foreign bodies: An experience, Al Hussein Awad, Mostafa EITaher, *International Archives of Otorhinolaryngology* (2018)

<b>OBJECTIVE</b>	To change tracheostomy tube while ensuring safety and comfort of patient.
<b>SCOPE</b>	All patients with tracheostomy tube.
<b>FLOW CHART</b>	 <pre> graph TD     Start([START]) --&gt; A[Receive Doctor's Instruction]     A --&gt; B[Registration]     B --&gt; C[Assessment / Examination]     C --&gt; D[Prepare Equipment]     D --&gt; E[Perform Procedure]     E --&gt; F{Complication}     F -- YES --&gt; G[Refer Doctor]     F -- NO --&gt; H[Health Education]     H --&gt; I[Clean the Instrument]     I --&gt; J[Documentation]     G --&gt; J     J --&gt; End([END])   </pre> <p>The flowchart illustrates the process of changing a tracheostomy tube. It begins with a 'START' terminal, followed by a sequence of rectangular process boxes: 'Receive Doctor's Instruction', 'Registration', 'Assessment / Examination', 'Prepare Equipment', and 'Perform Procedure'. A diamond-shaped decision box labeled 'Complication' follows. If the answer is 'YES', the flow goes to a 'Refer Doctor' box. If 'NO', it proceeds to 'Health Education', then 'Clean the Instrument', and finally 'Documentation'. The 'Refer Doctor' box also leads to 'Documentation'. The process concludes at an 'END' terminal.</p>

**B.12.1 | WORK PROCESS OF CHANGING OF TRACHEOSTOMY TUBE**

ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT
Receive Instruction	<ul style="list-style-type: none"> <li>● Read and understand doctor's instruction</li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
Registration	<ul style="list-style-type: none"> <li>● Register patient in the procedure book</li> <li>● Patient's particular:                             <ul style="list-style-type: none"> <li>➢ Date</li> <li>➢ Name</li> <li>➢ RN / IC</li> </ul> </li> </ul>		
Assessment /Examination	<ul style="list-style-type: none"> <li>● General assessment e.g.: cyanosis, dyspnea, stridor, restlessness etc</li> <li>● Examine and assess the tracheostomy tube and the adjacent area                             <ul style="list-style-type: none"> <li>➢ Blocked tube</li> <li>➢ Dislodged tube</li> <li>➢ Dirty or infected wound</li> <li>➢ Tracheal secretion</li> <li>➢ Foul smelling</li> </ul> </li> <li>● Identify the type and size of tracheostomy tube                             <ul style="list-style-type: none"> <li>➢ Cuffed or uncuffed tube</li> <li>➢ Single or double lumen</li> <li>➢ Fenestrated or non-fenestrated</li> <li>➢ Adjustable flange</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Pain as 5<sup>th</sup> Vital Sign Guidelines 3<sup>rd</sup> Edition 2018</li> <li>● National Tracheostomy Care Guideline KKM 2023</li> </ul>	<ul style="list-style-type: none"> <li>● Headlight</li> <li>● PPE</li> <li>● Dressing Set &amp; Dressing Scissor</li> <li>● Tracheostomy Tube of same size and 1 size smaller with Tape</li> <li>● Tracheal Dilator</li> <li>● Sandbag</li> <li>● Oxygen supply</li> <li>● Tracheal Mask</li> <li>● SpO<sub>2</sub> monitor</li> <li>● Syringe 10 ml</li> <li>● Gauze</li> <li>● Cotton Wool</li> <li>● Lubricant Gel</li> <li>● Sterile Surgical Glove</li> <li>● Suction Machine</li> <li>● Sterile Suction Catheter Tube of appropriate size</li> <li>● "Railroad" Tubing (Ryle's tube)</li> <li>● Normal saline 0.9%</li> <li>● Key Hole / Trachy Foam Dressing</li> <li>● Examination Couch</li> </ul>
Prepare equipments / instruments	<ul style="list-style-type: none"> <li>● Check the instruments and tracheostomy tube are functioning well</li> </ul>		
Prepare patient	<ul style="list-style-type: none"> <li>● Check the correct patient and procedure</li> <li>● Explain about the procedure to patient / guardian and obtain verbal consent</li> <li>● Put patient in supine position with neck extended</li> <li>● Pre oxygenate the patient with 100% oxygen</li> </ul>		<ul style="list-style-type: none"> <li>● Patient Examination Couch</li> </ul>

<p><b>Perform procedure</b></p>	<ul style="list-style-type: none"> <li>● Perform under aseptic technique:             <ul style="list-style-type: none"> <li>➢ hand washing</li> <li>➢ Wear PPE</li> </ul> </li> <li>● Remove dirty dressing and examine the wound</li> <li>● Ask the patient to take a few deep breaths before each suctioning</li> <li>● Perform tracheostomy suctioning with appropriate size of the suction catheter [use formula <math>(n-2) \times 2</math>, <math>n</math> is inner diameter of tube] <math>(6 - 2) \times 2 = 8</math></li> <li>● Clean around the tracheostoma using cotton wool with saline</li> <li>● Perform tracheostomy tube change using a tracheal dilator or railroad technique if needed</li> <li>● Check air entry and observe for difficulty in breathing/ cyanosis after the procedure</li> <li>● Refer doctor if any complication occurs during procedure:             <ul style="list-style-type: none"> <li>➢ Unable to re-insert tracheostomy tube</li> <li>➢ False track</li> <li>➢ Bleeding</li> <li>➢ Breathing difficulty</li> </ul> </li> <li>● Proper tying of the tracheostomy tape / ribbon             <ul style="list-style-type: none"> <li>➢ Use dead knot</li> <li>➢ Avoid too tight or too loose (approximately 2 finger breadth)</li> </ul> </li> <li>● Apply keyhole / trachy foam dressing</li> <li>● Monitor SpO<sub>2</sub> level and provide oxygen supply if necessary</li> </ul>	<ul style="list-style-type: none"> <li>● National Tracheostomy Care Guideline KKM 2023</li> </ul>	
<p><b>Clean the Instrument</b></p>	<ul style="list-style-type: none"> <li>● Clean the instruments according standard procedure</li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies &amp; Procedures On Infection Prevention and Control 2019</li> </ul>	<ul style="list-style-type: none"> <li>● Refer B.1 Procedure</li> </ul>

<p><b>Health education</b></p>	<ul style="list-style-type: none"> <li>● Care of the tracheostomy tube           <ul style="list-style-type: none"> <li>➢ Personal hygiene</li> <li>➢ Use cover / napkin to cover the tube from pollution</li> <li>➢ Use humidifier and moisture exchange (if any)</li> <li>➢ Cough out any excessive secretion</li> </ul> </li> <li>● Shower below the shoulder</li> <li>● Educate patient/ relative/ caregiver to do regular suction at home if secretion is copious</li> <li>● Seek early medical attention if any complications           <ul style="list-style-type: none"> <li>➢ Tube block</li> <li>➢ Tube dislodges</li> <li>➢ Infected wound</li> <li>➢ Bleeding from tube</li> <li>➢ Signs of respiratory distress</li> </ul> </li> </ul>		
<p><b>Documentation</b></p>	<ul style="list-style-type: none"> <li>● Document the procedure and findings</li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
<p><b>References</b></p>	<ol style="list-style-type: none"> <li>1. National Tracheostomy Care Guideline KKM 2023</li> <li>2. Timing the First Pediatric Tracheostomy Tube Change: A Randomized Controlled Trial, Stephen R. Chorney, Rosemary C. Patel, Allison E. Boyd, Joanne Stow, Mary M. Schmitt, Deborah Lipman, Julia F. Dailey, Carol Nhan, Terri Giordano, Steven E. Sobol, <i>Otolaryngology - Head and Neck Surgery (United States) (2021)</i></li> <li>3. Management of tracheostomy patients during the COVID-19 pandemic: review of the literature and demonstration, J. S. Kempfle, H. Löwenheim, M. J. Huebner, H. Iro, S. K. Mueller, <i>HNO (2020)</i></li> <li>4. Pediatric tracheostomy tube change, C. Yorschua Jalil, S. Gregory Villarroel, R. Mireya Méndez, <i>Revista Chilena de Pediatría (2020)</i></li> <li>5. Efficiency and usability of an elementary hand-held suction assembly in paediatric tracheostomised patients, P. Sagar, J. Kumar, J. Chandran, <i>Journal of Laryngology and Otology (2022)</i></li> <li>6. Endotracheal Tube and Tracheostomy Tube Suctioning, Kathleen Stacy, <i>Elsevier Clinical Skills (2020)</i></li> </ol>		

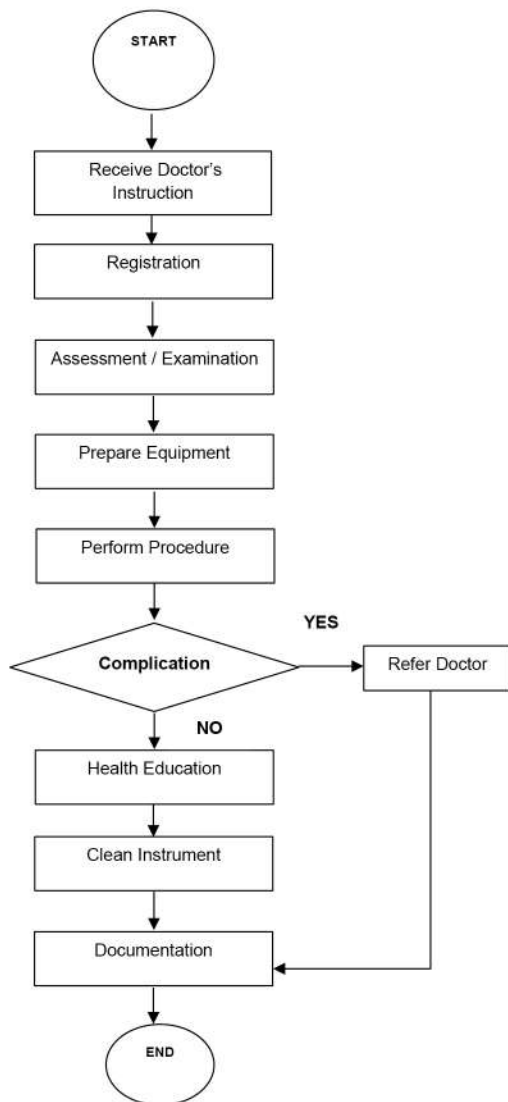
## OBJECTIVE

To perform suctioning of tracheostomy tube to ensure patency of the tracheostomy tube.

## SCOPE

All patients on tracheostomy tube with secretion.

## FLOW CHART

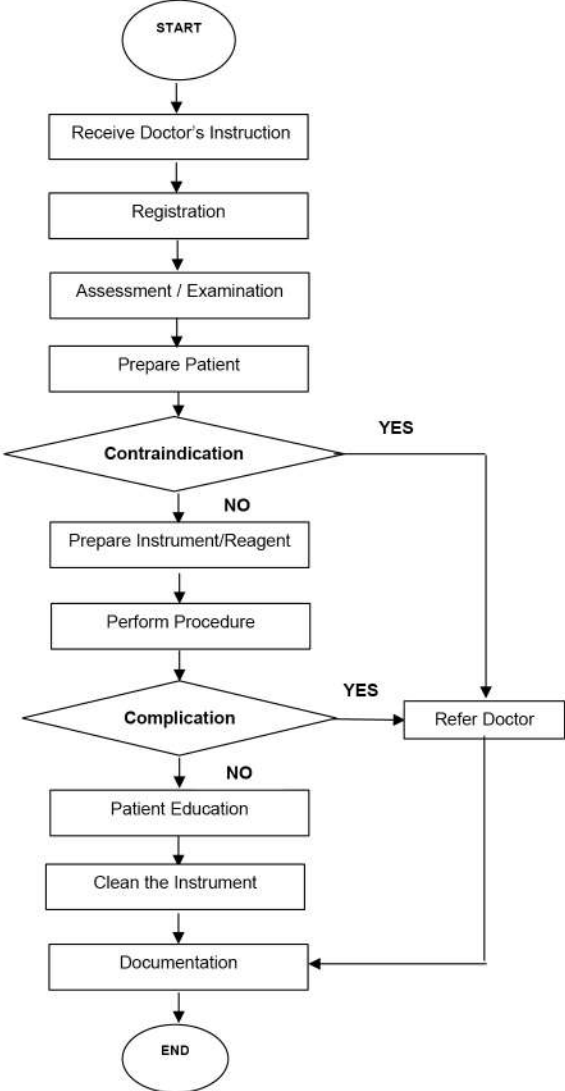


## B.13.1 | WORK PROCESS OF SUCTIONING OF TRACHEOSTOMY TUBE

ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT
Receive Instruction	<ul style="list-style-type: none"> <li>● Read and understand doctor's instruction</li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
Registration	<ul style="list-style-type: none"> <li>● Register patient in the procedure book</li> <li>● Patient's particular:                             <ul style="list-style-type: none"> <li>➢ Date</li> <li>➢ Name</li> <li>➢ RN / IC</li> </ul> </li> </ul>		
Assessment / Examination	<ul style="list-style-type: none"> <li>● General assessment e.g.: cyanosis, dyspnea, stridor, restlessness etc.</li> <li>● Examine and assess the tracheostomy tube and the adjacent area                             <ul style="list-style-type: none"> <li>➢ Blocked tube</li> <li>➢ Dislodged tube</li> <li>➢ Dirty or infected wound</li> <li>➢ Tracheal secretion</li> <li>➢ Foul smelling</li> </ul> </li> <li>● Identify the type and size of tracheostomy tube                             <ul style="list-style-type: none"> <li>➢ Cuffed or uncuffed tube</li> <li>➢ Single or double lumen</li> <li>➢ Fenestrated or non-fenestrated</li> <li>➢ Adjustable flange</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Pain as 5<sup>th</sup> Vital Sign Guidelines 3<sup>rd</sup> Edition 2018</li> </ul>	<ul style="list-style-type: none"> <li>● Headlight</li> <li>● PPE</li> <li>● Dressing Set</li> <li>● Oxygen supply</li> <li>● Tracheal mask</li> <li>● SpO<sub>2</sub> monitor</li> <li>● Syringe 10 ml</li> <li>● Suction Machine</li> <li>● Sterile Suction Catheter tube of appropriate size</li> <li>● Sterile Surgical Glove</li> <li>● Distilled Water</li> <li>● Examination Couch</li> <li>● Clinical Waste plastic</li> <li>● Dressing Towel</li> <li>● Keyhole / Trachy Foam Dressing</li> </ul>
Prepare equipments / instruments	<ul style="list-style-type: none"> <li>● Check and ensure all the instruments and tracheostomy tube are functioning well</li> <li>● Use an appropriate size of suction tube using formula:                             <ul style="list-style-type: none"> <li>➢ <math>(n - 2) \times 2</math></li> </ul> <p><i>n</i> is size of inner diameter of the tracheostomy tube</p> </li> </ul>		
Prepare patient	<ul style="list-style-type: none"> <li>● Check the correct patient and procedure</li> <li>● Explain about the procedure to patient / guardian and obtain verbal consent</li> </ul>		<ul style="list-style-type: none"> <li>● Patient Examination Couch</li> </ul>

	<ul style="list-style-type: none"> <li>● Put patient in supine or semi-Fowler's position</li> <li>● Pre oxygenate the patient with 100% oxygen</li> </ul>	<ul style="list-style-type: none"> <li>● National Tracheostomy Care Guideline KKM 2023</li> </ul>	
<p><b>Perform procedure</b></p>	<ul style="list-style-type: none"> <li>● Perform under aseptic technique:             <ul style="list-style-type: none"> <li>➢ hand washing</li> <li>➢ Wear PPE</li> </ul> </li> <li>● Remove dirty dressing and observe the wound</li> <li>● Ask the patient to take a few deep breaths before each suctioning</li> <li>● Perform tracheostomy suctioning with appropriate size of the suction catheter</li> <li>● The length of suction catheter inserted is limited to 0.5cm longer than the length of the tracheostomy tube</li> <li>● If excessive crusting or secretion is thick, instill few drops of sterile normal saline or nebulized saline into the tracheostomy to soften the secretions prior to suctioning</li> <li>● Each suctioning should be less than 20 seconds</li> <li>● Refer doctor if any complication occurs during procedure:             <ul style="list-style-type: none"> <li>➢ Breathing difficulty</li> <li>➢ Bleeding</li> <li>➢ Vasovagal attack</li> <li>➢ Bronchospasm</li> </ul> </li> <li>● Clean around the tracheostoma using a cotton wool with saline</li> <li>● Check air entry and observe for difficulty in breathing/ cyanosis after the procedure</li> <li>● Ensure the tracheostomy tube is well secured</li> <li>● Apply keyhole / trachy foam dressing</li> <li>● Provide oxygen supply and monitor SpO<sub>2</sub> level</li> <li>● Check breathing pattern             <ul style="list-style-type: none"> <li>➢ Observe difficulty in breathing or any</li> </ul> </li> </ul>		

	changing skin color of the patient		
<b>Clean the Instrument</b>	<ul style="list-style-type: none"> <li>● Clean the instruments according to standard procedure</li> </ul>	MOH Policies & Procedures On Infection Prevention and Control 2019	<ul style="list-style-type: none"> <li>● Refer B.1 Procedure</li> </ul>
<b>Health education</b>	<ul style="list-style-type: none"> <li>● Care of the tracheostomy tube               <ul style="list-style-type: none"> <li>➢ Personal hygiene</li> <li>➢ Use cover / napkin to cover the tube from pollution.</li> <li>➢ Use humidifier and moisture exchange (if any)</li> <li>➢ Cough out any excessive secretion</li> </ul> </li> <li>● Shower below the shoulder</li> <li>● Educate patient/ relative/ caregiver to do regular suction at home if secretion is copious</li> <li>● Seek medical attention if any complications               <ul style="list-style-type: none"> <li>➢ Tube block</li> <li>➢ Tube dislodge</li> <li>➢ Infected wound</li> <li>➢ Bleeding from tube</li> <li>➢ Signs of respiratory distress</li> </ul> </li> </ul>		
<b>Documentation</b>	<ul style="list-style-type: none"> <li>● Document the procedure and findings</li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
<b>References</b>	<ol style="list-style-type: none"> <li>1. National Tracheostomy Care Guideline KKM 2023</li> <li>2. Perubahan Kadar Saturasi Oksigen pada Pasien Dewasa yang Dilakukan Tindakan Suction Endotrakeal Tube di Ruang ICU RSUD Ulin Banjarmasin, Hammad Hammad, M. Ichwan Rijani, Marwansyah Marwansyah, <i>Bima Nursing Journal</i> (2020)</li> <li>3. Efficiency and usability of an elementary hand-held suction assembly in paediatric tracheostomised patients, P. Sagar, J. Kumar, J. Chandran, <i>Journal of Laryngology and Otology</i> (2022)</li> <li>4. Tracheostomy tube type and inner cannula selection impact pressure and resistance to air flow, Lee N. Pryor, Claire E. Baldwin, Andrew D. Bersten, <i>Respiratory Care</i> (2016)</li> </ol>		

<b>OBJECTIVE</b>	To identify and diagnose patient's sensitization to different antigens.
<b>SCOPE</b>	All patients suspected with Type I hypersensitivity, such as allergy rhinitis or food allergy.
<b>FLOW CHART</b>	 <pre> graph TD     Start([START]) --&gt; A[Receive Doctor's Instruction]     A --&gt; B[Registration]     B --&gt; C[Assessment / Examination]     C --&gt; D[Prepare Patient]     D --&gt; E{Contraindication}     E -- YES --&gt; H[Refer Doctor]     E -- NO --&gt; F[Prepare Instrument/Reagent]     F --&gt; G[Perform Procedure]     G --&gt; I{Complication}     I -- YES --&gt; H     I -- NO --&gt; J[Patient Education]     J --&gt; K[Clean the Instrument]     K --&gt; L[Documentation]     H --&gt; L     L --&gt; End([END])   </pre> <p>The flowchart details the following steps: START, Receive Doctor's Instruction, Registration, Assessment / Examination, Prepare Patient, Contraindication (decision), Prepare Instrument/Reagent, Perform Procedure, Complication (decision), Patient Education, Clean the Instrument, Documentation, and END. Decision points for 'Contraindication' and 'Complication' lead to 'Refer Doctor' if the answer is 'YES', which then leads to 'Documentation'.</p>

**B.14.1 | WORK PROCESS OF SKIN PRICK TEST**

ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT
Receive instruction	<ul style="list-style-type: none"> <li>● Read and understand doctor's instruction</li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or out patient card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip or HIS</li> <li>● HIS/EMR/Procedures Registration Book</li> </ul>
Registration	<ul style="list-style-type: none"> <li>● Register patient in the procedure book</li> <li>● Patient's particular:                             <ul style="list-style-type: none"> <li>➢ Date</li> <li>➢ Name</li> <li>➢ RN / IC</li> </ul> </li> </ul>		
Assessment / examination	<ul style="list-style-type: none"> <li>● Examine and assess the location for the skin prick test (volar surface of forearm)                             <ul style="list-style-type: none"> <li>➢ Dermatographism</li> <li>➢ Extensive Eczema</li> <li>➢ Urticaria</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>● Allergic Reagents</li> <li>● Pen / Marker</li> <li>● Sterile Lancets</li> <li>● Hypoallergenic Paper Tape</li> <li>● Measuring Ruler</li> <li>● Allergen Form</li> <li>● Sharp Bin</li> <li>● Sterile Surgical Glove</li> <li>● Alcohol Swab</li> <li>● Dressing Towel</li> <li>● Gauze</li> <li>● Sterile Water</li> <li>● Gallipot</li> <li>● Tissue Paper</li> <li>● Timer</li> <li>● CMC Ointment / Hydrocortisone Cream</li> <li>● Emergency Trolley</li> </ul>
Prepare reagents / instruments / equipments	<ul style="list-style-type: none"> <li>● Check the reagent validity and prepare the reagent</li> <li>● Prepare the instruments</li> <li>● Check the emergency trolley is functioning and complete</li> </ul>		
Prepare patient	<ul style="list-style-type: none"> <li>● Check the correct patient and procedure</li> <li>● Explain about the procedure to patient / guardian and obtain written consent</li> <li>● Put patient in sitting / lying position</li> <li>● To ensure the patient has stopped taking any antihistamines, oral steroids, topical steroids or traditional medications 1 week before the procedure</li> <li>● Cautions on medication that may impair the result such as:                             <ul style="list-style-type: none"> <li>i) anti-depression, beta blocker and H2-blocker</li> <li>antacid prior to the procedure</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>● Patient Examination Chair</li> <li>● Dressing Trolley</li> </ul>

Perform procedure

- Perform hand washing
- Wear the sterile glove
- Place dressing towel below the patient's hand
- Clean the volar surface with sterile water
- Marking the volar surface with numbering in between 1-2cm apart
- Apply the allergen according to the specific number
- Use lancet to prick the skin (1 lancet for 1 specific allergen)
- Wipe the allergen with tissue paper to dry it up from the skin
- Ask patient to wait until 20-30 minutes and ask patient not to rub or scratch the volar surface (positive results will reveal wheal and flare)
- After 20-30 minutes, mark the specific place with a marker, then use hypoallergenic paper tape to get the diameter of the skin wheal (swelling)
- Measure the diameter of reaction using the ruler (positive result is when the wheal is  $\geq 3$ mm of positive control)
- Record the findings
- Clean volar surface with gauze and apply CMC ointment / hydrocortisone cream
- Monitor for early sign of anaphylactic shock
  - Shortness of breath
  - Low blood pressure
  - Weak pulse
  - Flushed and pale skin
  - Nausea and vomiting
  - Dizzy or fainting
- If the above signs are present, **IMMEDIATELY** call for help and get an emergency trolley ready

<b>Clean the Instrument</b>	<ul style="list-style-type: none"> <li>● Clean the instruments according standard procedure</li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies &amp; Procedures on Infection Prevention and Control 2019</li> </ul>	<ul style="list-style-type: none"> <li>● Refer B.1 Procedure</li> </ul>
<b>Health education</b>	<ul style="list-style-type: none"> <li>● Care of affected area (volar surface)</li> <li>● Advise patient that the wheals will fade, usually within an hour</li> <li>● To comply with topical steroid cream to reduce the wheal and itchiness</li> <li>● Seek medical attention <b>IMMEDIATELY</b> if any complication arises at home</li> </ul>		
<b>Documentation</b>	<ul style="list-style-type: none"> <li>● Document the procedure and finding</li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or outpatient card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip or HIS</li> <li>● HIS/EMR/Procedures Registration Book</li> </ul>
<b>References</b>	<ol style="list-style-type: none"> <li>1. Profil Hasil Pemeriksaan Skin Prick Test Positif dengan Manifestasi Klinisnya di Poliklinik Khusus Alergi Imunologi THT-KL RSUD dr. Saiful Anwar Malang Periode Januari 2020 – Februari 2021, Dr Agustinus, Betha Devito, Heryaning Meyrna, Sp T H T K Putri, <i>Malang Otorhinolaryngology Head and Neck Surgery Journal (2022)</i></li> <li>2. Cross-reactivity in Skin Prick Test Results of Members Within Pooideae Subfamily, Brette C. Harding, Brian P. Kinealy, Christine B. Franzese, <i>OTO Open (2021)</i></li> <li>3. Microvascular effects of microneedles with subsequent histamin application in the skin prick test, Johannes Hackethal, <i>Skin Research and Technology (2021)</i></li> <li>4. Association of Severity of Allergic Conjunctivitis with Skin Prick Test, Amena Masrur, Muhammad Adnan, Furqan Ahmed Khan, Ali Tayyab, <i>Journal of the College of Physicians and Surgeons Pakistan (2020)</i></li> <li>5. Skin prick test reactivity to common aeroallergens among allergic rhinitis patients in Jordan, Hani M. Al-Shagahin, Ibrahim F. Kharboush, Enas Al-Zayadneh, Abdelrahman Alharazneh, Eman Albataineh, Ala Alqatamin, <i>Biomedical and Pharmacology Journal (2019)</i></li> <li>6. The skin prick tes, F. Frati, C. Incorvaia, C. Cavaliere, G. Di Cara, F. Marcucci, S. Esposito, Masieri, <i>Journal of Biological Regulators and Homeostatic Agents (2018)</i></li> </ol>		

OBJECTIVE	To screen newborn hearing status for early intervention.
SCOPE	All newborn babies delivered prior to discharge.
FLOW CHART	<pre> graph TD     Start((START)) --&gt; Registration[Registration]     Registration --&gt; Assessment[Assessment / Examination]     Assessment --&gt; Prepare[Prepare Equipment]     Prepare --&gt; Perform[Perform Procedure]     Perform --&gt; Result{Result?}     Result -- FAILED --&gt; Refer[Refer Audiologist]     Result -- PASS --&gt; Clean[Clean Instrument]     Refer --&gt; Documentation[Documentation]     Clean --&gt; Documentation     Documentation --&gt; End((END))   </pre>

**B.15.1 | WORK PROCESS OF UNIVERSAL NEONATAL HEARING SCREENING**

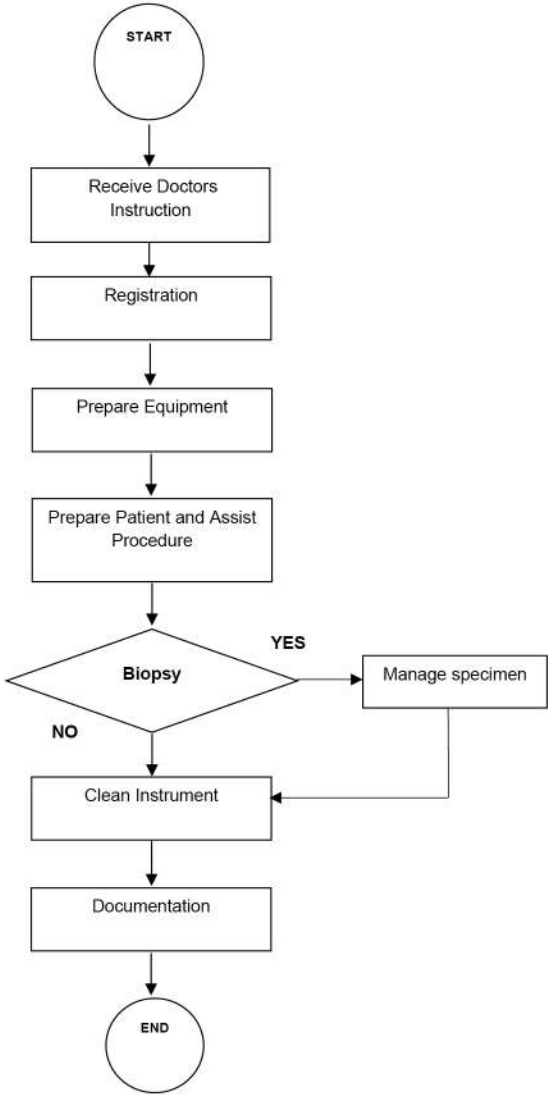
ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT
Registration	<ul style="list-style-type: none"> <li>● Register patient in the procedure book</li> <li>● Patient's particular                             <ul style="list-style-type: none"> <li>➢ Date</li> <li>➢ Name</li> <li>➢ RN or IC</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Guideline For Neonatal Hearing Screening 2023</li> </ul>	<ul style="list-style-type: none"> <li>● Neonatal Hearing Screening Form</li> <li>● HIS/EMR/Procedures Registration Book</li> <li>● Buku Rekod Kesihatan Bayi dan Kanak-Kanak (0-6 Tahun)</li> </ul>
Assessment / examination	<ul style="list-style-type: none"> <li>● Assess the neonate's ear for abnormalities</li> </ul>		<ul style="list-style-type: none"> <li>● OAE Machine</li> <li>● Ear Probe</li> <li>● Ear Tip</li> </ul>
Prepare equipment	<ul style="list-style-type: none"> <li>● Check and ensure OAE machine is functioning well</li> </ul>		
Prepare patient	<ul style="list-style-type: none"> <li>● Check for the correct patient and procedure</li> <li>● Explain about the procedure to mother / guardian and obtain verbal consent</li> <li>● Put neonate in a baby cot or hold by the mother / guardian</li> </ul>		
Perform procedure	<ul style="list-style-type: none"> <li>● Perform hand washing.</li> <li>● Wear PPE</li> <li>● Place neonate in baby cot or hold by the mother / guardian</li> <li>● Perform hearing screening on both ear using OAE machine by inserting the ear probe in the ear canal</li> <li>● Generate result                             <ul style="list-style-type: none"> <li>➢ <b>PASS:</b> Response present at 35dBnHL on both ears</li> <li>➢ <b>FAILED:</b> No recordable response at 35dBnHL at any ear – to refer to Audiologist</li> </ul> </li> <li>● Refer audiologist for second screening</li> </ul>		<ul style="list-style-type: none"> <li>● Ppe</li> <li>● Baby Cot</li> <li>● Cotton Ball</li> <li>● Alcohol Swab</li> <li>● Blanket</li> </ul>
Clean the Instrument	<ul style="list-style-type: none"> <li>● Clean and change the ear tip</li> </ul>	<ul style="list-style-type: none"> <li>● Alcohol Swab</li> </ul>	

<p><b>Documentation</b></p>	<ul style="list-style-type: none"> <li>● Document the procedure and findings</li> </ul>		<ul style="list-style-type: none"> <li>● Neonatal Hearing Screening Form</li> <li>● HIS/EMR/Procedures Registration Book</li> <li>● Buku Rekod Kesihatan Bayi dan Kanak-Kanak (0-6 Tahun)</li> </ul>
<p><b>References</b></p>	<ol style="list-style-type: none"> <li>1. Guideline For Neonatal Hearing Screening 2023</li> <li>2. Health Technology Assessment Report; Screening For Hearing Loss in Infants, 2004</li> <li>3. Pediatrics, 120 (4), pp. 898–921. Joint Committee of Infant Hearing, Position Statement 2007</li> <li>4. Mehl AL, Thomson V. The Colorado newborn hearing screening project,1992 1999:On the threshold to do effective population-based universal newborn hearing screening. Pediatrics 2002; 109: E7</li> <li>5. Thompson DC, Mc Phillips H,Davis R L, Lieu TL, Homer C J, Helfand M, Universal Newborn hearing screening: summary of evidence. JAMA 2001; 286:2000-10</li> <li>6. Harvey Coates, Kim Gifkins. Diagnostic Test: Newborn hearing screening. Australian Prescriber Vol. 26 No.4 2003</li> <li>7. Colorado Infant Hearing Advisory Committee Guidelines for Infant Hearing Screening, Audiological Assessment, and Intervention; December 14, 2000</li> </ol>		

## ASSISTING PROCEDURE IN OUTPATIENT CLINIC

C.1

### ASSISTING IN ENDOSCOPIC PROCEDURE

<b>OBJECTIVE</b>	To assist and ensure all equipment are well functioned and ready to use.
<b>SCOPE</b>	All endoscopic procedures in clinic using rigid and flexible endoscopes in ear, nose and throat as ordered by doctor.
<b>FLOW CHART</b>	 <pre> graph TD     Start((START)) --&gt; A[Receive Doctors Instruction]     A --&gt; B[Registration]     B --&gt; C[Prepare Equipment]     C --&gt; D[Prepare Patient and Assist Procedure]     D --&gt; E{Biopsy}     E -- YES --&gt; F[Manage specimen]     F --&gt; G[Clean Instrument]     E -- NO --&gt; G     G --&gt; H[Documentation]     H --&gt; End((END))   </pre> <p>The flowchart illustrates the assisting procedure in an endoscopic procedure. It begins with a 'START' terminal, followed by a sequence of rectangular process boxes: 'Receive Doctors Instruction', 'Registration', 'Prepare Equipment', and 'Prepare Patient and Assist Procedure'. A diamond-shaped decision box labeled 'Biopsy' follows. If the answer is 'YES', the flow goes to a rectangular box 'Manage specimen', which then leads to 'Clean Instrument'. If the answer is 'NO', the flow goes directly to 'Clean Instrument'. From 'Clean Instrument', the flow proceeds to 'Documentation' and finally to an 'END' terminal.</p>

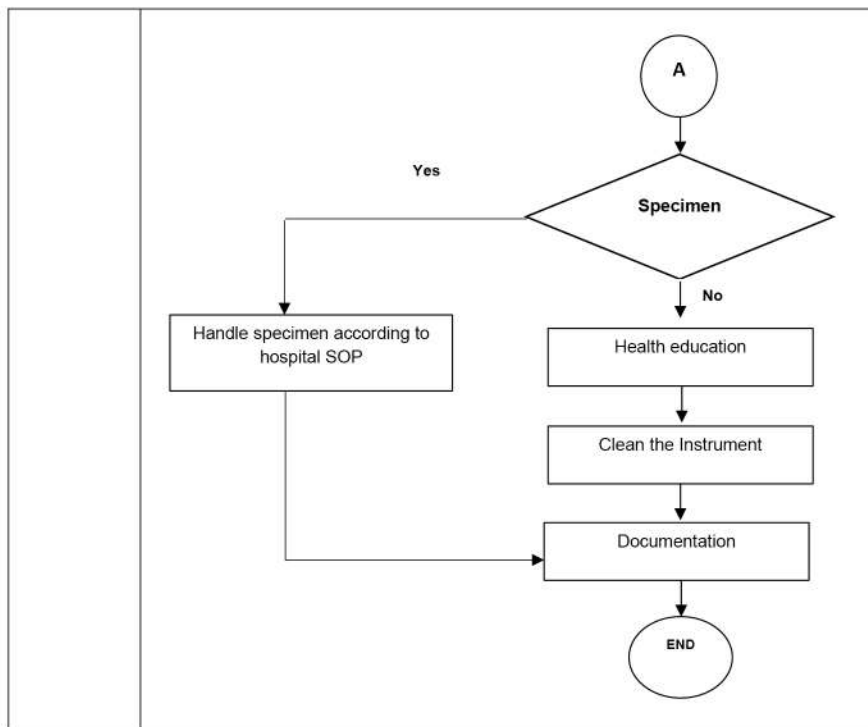
**C.1.1 | WORK PROCESS ASSISTING IN ENDOSCOPIC PROCEDURE**

ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENTS
Receive the instruction	<ul style="list-style-type: none"> <li>● Read and check doctor instruction</li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology File or Outpatient card (Perubatan96-Pin.1/78) or Patient Medical Record or Procedure Slip or HIS</li> <li>● HIS/EMR/Procedures Registration Book</li> </ul>
Registration	<ul style="list-style-type: none"> <li>● Register patient in the procedure book</li> <li>● Patient's particular:                             <ul style="list-style-type: none"> <li>➢ Date</li> <li>➢ Name</li> <li>➢ RN / IC</li> </ul> </li> </ul>		
Prepare the equipments / instruments	<ul style="list-style-type: none"> <li>● Prepare and ensure all equipment and instrument are functioning well</li> </ul>		<ul style="list-style-type: none"> <li>● Refer Annex</li> </ul>
Prepare patient and assist procedure	<ul style="list-style-type: none"> <li>● Check for the correct patient and procedure</li> <li>● Explain about the procedure to patient / guardian and obtain verbal consent</li> <li>● Put the patient in a sitting position</li> <li>● Apply local anesthesia (if necessary)</li> <li>● Continue to assist procedure accordingly Refer to annex</li> <li>● If biopsy is taken, handle specimen according to hospital SOP</li> <li>● In uncooperative patient or paediatric age group or any difficulty:                             <ul style="list-style-type: none"> <li>➢ Hold the child gently and firmly in a sitting position and proceed with the procedure.</li> </ul> </li> </ul>		
Clean the instrument	<ul style="list-style-type: none"> <li>● Disinfect instrument using high level disinfectant solution / wipes</li> </ul>	<ul style="list-style-type: none"> <li>● MOH Policies and Procedure on Infection and Prevention Control 2019</li> </ul>	<ul style="list-style-type: none"> <li>● Soaking Tray</li> <li>● Refer B.1</li> <li>● Wipes High Level Disinfectant</li> </ul>
Documentation	<ul style="list-style-type: none"> <li>● Document the procedure</li> </ul>		<ul style="list-style-type: none"> <li>● Procedure Book / Patient Notes</li> <li>● ORL File / Outpatient Card (Perubatan 96 Pin. 1/78)</li> <li>● Patient Medical Record</li> <li>● HIS</li> </ul>

## ANNEX C 1: ASSISTING IN ENDOSCOPIC PROCEDURE

NO.	TYPE OF PROCEDURE	EQUIPMENT/REQUIREMENT	REMARK
1.	Rigid Nasal Endoscopy	<ul style="list-style-type: none"> <li>Telescope of various sizes and degrees</li> </ul>	<p><b><u>General items:</u></b></p> <ul style="list-style-type: none"> <li>Camera System</li> <li>Suction Instruments</li> <li>Suction Machine</li> <li>Cup Biopsy Forcep</li> <li>Grasp Forcep</li> <li>Anti-Fogging Solution (if necessary)</li> <li>Local Anaesthesia</li> <li>Cotton Swab</li> <li>Gauze</li> <li>Specimen Bottle</li> <li>Formaldehyde</li> <li>Pathology form</li> </ul>
2.	Rigid Aural Endoscopy	<ul style="list-style-type: none"> <li>Telescope of various sizes and degrees</li> </ul>	
3.	Rigid Pharyngoscopy	<ul style="list-style-type: none"> <li>Telescope of various sizes and degrees</li> </ul>	
4.	Flexible Nasopharyngolaryngoscopy	<ul style="list-style-type: none"> <li>Pediatric / Adult Rhino-laryngo Fiberscope</li> </ul>	
<b>References</b>	<ol style="list-style-type: none"> <li>Endoscope-Assisted Extreme-Lateral Interbody Fusion: Preliminary Experience and Technical Note, Claudio Schonauer, Martin Nikolaus Stienen, Enrico Tessitore, <i>World Neurosurgery</i> (2017)</li> <li>MOH Policies and Procedure on Infection and Prevention Control 2019</li> <li>Preis M. Otoendoscopy in the office and operating room. <i>Otolaryngol Clin North Am.</i> 2021;54(1):59–64. doi: 10.1016/j.otc.2020.09.004</li> <li>How fact-checkers delimit their scope of practices and use sources: Comparing professional and partisan practitioners, Nathan L.T. Tsang, Mengzhe Feng, Francis L.F. Lee, <i>Journalism</i> (2022)</li> <li>An introduction to flexible endoscopy, Katie Schwab, Sukhpal Singh, <i>Surgery</i> (2011)</li> <li>Nasal and instrument preparation prior to rigid and flexible nasendoscopy: A systematic review, P. C. Nankivell, D. D. Pothier, <i>Journal of Laryngology and Otology</i> (2008)</li> <li>Cleaning endoscopes; advance medication preparation; reusing irrigation setups; procedure masks; fire safety; reusing blades, Dorothy Fogg, <i>AORN Journal</i> (2003)</li> </ol>		

<b>OBJECTIVE</b>	To assist and prepare the instruments / equipments for ORL procedures and ensuring that the procedures are carried out systematically and safely, fostering professional teamwork to coordinate care for better patient outcomes before, during, and after the procedure.
<b>SCOPE</b>	All patients who are planned for minor ORL procedures.
<b>FLOW CHART</b>	<pre> graph TD     Start([START]) --&gt; Step1[Receive Doctor's Instruction]     Step1 --&gt; Step2[Preparation of Patient]     Step2 --&gt; Step3[Preparation of Equipment / Instruments]     Step3 --&gt; Step4[Scrubbing and gloving]     Step4 --&gt; Step5[Preparation of operating trolley]     Step5 --&gt; Step6[Preparation of surgical site]     Step6 --&gt; Decision{Open Sterile Set}     Decision -- Incomplete --&gt; Step7[Return to CSSD]     Step7 --&gt; Step8[Document and open new sets]     Step8 --&gt; Step9[Assist the procedure]     Decision -- Complete --&gt; Step9     Step9 --&gt; End([A])   </pre>



## C.2.1 | WORK PROCESS ASSISTING IN MINOR ORL PROCEDURES

ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT
Receive Instruction	<ul style="list-style-type: none"> <li>● Read and understand doctor's instruction</li> </ul>		<ul style="list-style-type: none"> <li>● Patient's Bed Head Ticket. (BHT)</li> <li>● Consent for procedure</li> </ul>
Preparation of patient	<ul style="list-style-type: none"> <li>● Assess condition of patient</li> <li>● Check for correct patient, procedure and side</li> <li>● Check for the written consent</li> <li>● Position patient according to standard practice</li> <li>● Check vital sign:                             <ul style="list-style-type: none"> <li>➢ Blood pressure</li> <li>➢ Pulse</li> <li>➢ SpO2</li> <li>➢ Pain score</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Pain as 5<sup>th</sup> Vital Sign Guidelines 3<sup>rd</sup> Edition 2018</li> </ul>	<ul style="list-style-type: none"> <li>● Equipment                             <ul style="list-style-type: none"> <li>➢ Examination Chair</li> <li>➢ Pain Score Ruler</li> <li>➢ Vital Sign Monitor</li> </ul> </li> </ul>
Preparation of equipments / instruments	<ul style="list-style-type: none"> <li>● Prepare machine according to procedure</li> <li>● Prepare sterile sets / instruments</li> <li>● Ensure all equipment and instrument are well functioning</li> </ul>	<ul style="list-style-type: none"> <li>● Refer Operating manual book</li> </ul>	<ul style="list-style-type: none"> <li>● Refer Annex 2a</li> </ul>
Scrubbing and gloving	<ul style="list-style-type: none"> <li>● Perform surgical hand scrubbing, and gloving according to the standard practice</li> </ul>	<ul style="list-style-type: none"> <li>● SOP operating procedure</li> <li>● National Operating Nursing Audit – NORNA ES AF 5.7</li> </ul>	<ul style="list-style-type: none"> <li>● Antiseptic Solution</li> <li>● Sterile Scrub Brushes</li> <li>● Sterile Glove</li> </ul>
Preparation of operating trolley	<ul style="list-style-type: none"> <li>● Layout sterile surgical trolley drape</li> <li>● Unwrap the sterile instruments or sets</li> <li>● Layout sterile surgical instruments for the procedure</li> <li>● Prepare other requirements / supplements as needed</li> </ul>		<ul style="list-style-type: none"> <li>● Operating Trolley</li> <li>● Sterile Supplementary Instruments</li> <li>● Sterile Linen</li> </ul>

<b>Preparation of surgical site</b>	<ul style="list-style-type: none"> <li>Assist in painting and draping of the surgical site according to standard practice</li> </ul>	<ul style="list-style-type: none"> <li>Infection control manual KKM</li> <li>Refer manual operating book</li> </ul>	
<b>Assisting the procedure</b>	<ul style="list-style-type: none"> <li>Fully comply to the standard aseptic technique practice</li> <li>If specimen is taken, handle specimen according to hospital SOP</li> <li>Maintain the sterility of the operating field throughout the procedure</li> <li>At the end of the procedure:             <ul style="list-style-type: none"> <li>Clean the surgical site</li> <li>Apply appropriate dressing as ordered by doctor</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>SOP operating procedure</li> <li>National Operating Nursing Audit – NORMA ES AF 5.7</li> </ul>	<ul style="list-style-type: none"> <li>Refer Annex 2a</li> </ul>
<b>Health education</b>	<ul style="list-style-type: none"> <li>Advice on wound care</li> <li>Seek medical treatment if any complication occur</li> </ul>		
<b>Cleaning the instruments</b>	<ul style="list-style-type: none"> <li>Identify and clean all the instruments using cleaning solution and rinse using sterile water</li> <li>Soak all instruments and scope (if any) in recommended solution by hospital</li> <li>Rinse all the items using sterile water and dry it</li> <li>Send the instruments to CSSD for sterilization</li> </ul>	<ul style="list-style-type: none"> <li>CSSD Policy KKM 2018</li> <li>Refer safety data sheet</li> </ul>	<ul style="list-style-type: none"> <li>CSSD Form</li> <li>HLD Solution</li> </ul>
<b>Documentation</b>	<ul style="list-style-type: none"> <li>Record in procedure book</li> </ul>		<ul style="list-style-type: none"> <li>Procedure Book</li> </ul>
<b>References</b>	<ol style="list-style-type: none"> <li><a href="https://www.news-medical.net/health/Common-Ear-Nose-Throat-(ENT)-Procedures.aspx">https://www.news-medical.net/health/Common-Ear-Nose-Throat-(ENT)-Procedures.aspx</a></li> <li>Otorhinolaryngology Service Operational Policy, January 2018</li> <li>Guidelines On Chemical Management in Health Care Facilities Ministry Of Health 2010</li> <li>Central Sterile Supply Services Policy, August 2018</li> <li>2nd edition Guidelines on MOH Safe Surgery Saves Lives Programme</li> </ol>		

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|--|---|
|  | <ol style="list-style-type: none"><li>6. Policies and Procedures on Infection Prevention and Control Third Edition 2018</li><li>7. Pain Free Program: Pain Free Manual 2023 (3rd edition)</li><li>8. Daycare standard operating procedure 1<sup>st</sup> edition, August 2016</li><li>9. Otorhinolaryngology: Patient Information leaflet, 1<sup>st</sup> edition, January 2015</li><li>10. Guideline for positioning the patient. (2017). AORN Journal, 105 (4), P8-P10. doi:10.1016/s0001-2092(17)30237-5</li><li>11. Rothrock, J. C. (2011). Alexander's care of the patient in surgery (14th ed.). St. Louis, MO: Mosby.</li><li>12. Kosko J, Casey J. Retropharyngeal and parapharyngeal abscesses: Factors in medical management failure. Ear Nose Throat J. 2017;96(1):E12-e15</li></ol> |
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**ANNEX C.2a : ASSISTING IN MINOR OTOTOLOGY PROCEDURE**

NO.	TYPE OF PROCEDURE	EQUIPMENT/REQUIREMENT	REMARK
1.	Myringotomy and Ventilation Tube insertion	<ul style="list-style-type: none"> <li>• Myringotomy Set</li> <li>• Operating Or Diagnostic Microscope/ Rigid Otoendoscope</li> <li>• Camera System and Light Source</li> <li>• Ventilation Tube</li> </ul>	<p><b>General items:</b></p> <ul style="list-style-type: none"> <li>• Local Anesthesia</li> <li>• Suction Machine</li> <li>• Suction Tubing</li> <li>• Suction Cannula</li> <li>• Syringe</li> <li>• Needle</li> <li>• Scalpel / Surgical Blade</li> <li>• Antiseptic Solution</li> <li>• Surgical Marker Pen (if necessary)</li> <li>• Diathermy (if necessary)</li> <li>• Anti-Fogging Solution (if necessary)</li> <li>• Gauze</li> </ul>
2.	Button Stitch	<ul style="list-style-type: none"> <li>• T&amp;S Set</li> <li>• Button</li> <li>• Suture Material</li> <li>• Headlight</li> </ul>	
3.	Incision and Drainage of Pinna Hematoma or Abscess	<ul style="list-style-type: none"> <li>• I &amp; D Set</li> <li>• Ribbon Gauze/ Drain</li> <li>• Specimen Container</li> </ul>	
4.	Injection Intra Tympanic	<ul style="list-style-type: none"> <li>• EUM set</li> <li>• Diagnostic Microscope / Rigid Otoendoscope</li> <li>• Camera System and Light Source</li> <li>• Dexamethasone Injection Ampule</li> <li>• Dental Syringe / Syringe 1cc with Spinal Needle</li> </ul>	
5.	Keloid Injection	<ul style="list-style-type: none"> <li>• Dressing Set</li> <li>• Syringe 5ml</li> <li>• Triamcinolone Acetonide</li> <li>• Needle 23G</li> </ul>	
6.	Toilet & Suturing	<ul style="list-style-type: none"> <li>• T&amp;S Set</li> <li>• Suture material</li> </ul>	
7.	Aural Polypectomy / Biopsy	<ul style="list-style-type: none"> <li>• Middle Ear Set</li> <li>• Aural Snare</li> <li>• Trichloroacetic Acid / Silver Nitrate</li> <li>• Cotton soaked Adrenaline 1:1000</li> <li>• Biopsy Forceps</li> <li>• Specimen Container</li> </ul>	
8.	Chemical Cauterization	<ul style="list-style-type: none"> <li>• Trichloroacetic Acid / Silver Nitrate</li> <li>• Orange Cotton Stick</li> </ul>	
9.	Simple Excision of Ear Lesion	<ul style="list-style-type: none"> <li>• Baby Appendix Set / T&amp;S set</li> <li>• Suture Material</li> <li>• Specimen Container</li> </ul>	

**ANNEX C.2b : ASSISTING IN MINOR RHINOLOGY PROCEDURE**

NO.	TYPE OF PROCEDURE	EQUIPMENT/REQUIREMENT	REMARK
1.	Nasal Bone Reduction	<ul style="list-style-type: none"> <li>• Nasal Bone Reduction Set</li> <li>• Nasal Packing</li> <li>• External Nasal Splint</li> <li>• Ice Pack</li> </ul>	<p><b>General items:</b></p> <ul style="list-style-type: none"> <li>• Rigid Endoscope</li> <li>• Camera System</li> <li>• Suction Cannula</li> <li>• Suction Machine</li> <li>• Suction Tubing</li> <li>• Syringe</li> <li>• Needle</li> <li>• Cotton Wool</li> <li>• Gauze</li> <li>• Distilled Water / Normal Saline</li> <li>• Anti-Fog Solution</li> <li>• Local Anesthesia (solution / spray)</li> </ul>
2.	Nasal Toilet / Nasal Packing	<ul style="list-style-type: none"> <li>• Nasal Packing Set</li> <li>• Nasal Suction Cannula</li> <li>• Nasal Forcep</li> <li>• Ice Pack (if needed)</li> <li>• Nasal Douching Solution</li> </ul>	
3.	Nasal biopsy / Limited polypectomy / Excision of nasal lesion	<ul style="list-style-type: none"> <li>• Dressing set/ Nasal packing set/ Baby appendix set</li> <li>• Nasal suction cannula</li> <li>• Nasal forceps</li> <li>• Biopsy forceps</li> <li>• Nasal packing</li> <li>• Ice pack</li> <li>• Specimen container with formalin</li> </ul>	
4.	Cauterization Of Nasal Septum	<ul style="list-style-type: none"> <li>• Nasal Packing Set</li> <li>• Nasal Packing</li> <li>• Chemical Cauterization (Trichloroacetic Acid / Silver Nitrate)</li> <li>• Electrical Cauterization (Diathermy)</li> </ul>	
5.	Toilet & Suturing	<ul style="list-style-type: none"> <li>• T&amp;S Set</li> <li>• Suture Material</li> </ul>	
6.	Release Of Synechiae / Adhesion	<ul style="list-style-type: none"> <li>• Nasal Packing Set</li> <li>• Freer Elevator / Surgical Scissor</li> <li>• Nasal Packing</li> </ul>	
7.	Incision And Drainage of Septal Hematoma / Abscess	<ul style="list-style-type: none"> <li>• I&amp;D / Small Set</li> <li>• Columella Retractor</li> <li>• Scalpel Blade</li> <li>• Ribbon Gauze/ Nasal Packing/ Corrugated Drain</li> </ul>	

**ANNEX C.2c : ASSISTING IN HEAD AND NECK MINOR PROCEDURE**

NO.	TYPE OF PROCEDURE	EQUIPMENT/REQUIREMENT	REMARK
1.	Incision and Drainage of Peritonsillar Abscess	<ul style="list-style-type: none"> <li>• I &amp; D Set</li> <li>• Headlight / Torch Light</li> <li>• Suction apparatus</li> <li>• Scalpel Blade</li> <li>• Needle</li> <li>• Syringe</li> </ul>	<ul style="list-style-type: none"> <li>• Guarded Blade for Peritonsillar Abscess case</li> <li>• Local Anesthesia eg: Lignocaine 10% Spray</li> <li>• Ice Gargle</li> </ul>
2.	Incision / Excision Biopsy of simple head and neck lumps and bumps	<ul style="list-style-type: none"> <li>• Basic ENT / Plastic set</li> <li>• Headlight / Portable light</li> <li>• Diathermy</li> <li>• Suction apparatus</li> <li>• Scalpel Blade</li> <li>• Needle</li> <li>• Syringe</li> <li>• Specimen Container with Formalin</li> </ul>	<ul style="list-style-type: none"> <li>• Local anesthesia eg: Lignocaine 2% / Marcaine</li> <li>• Adrenaline</li> <li>• Suture materials</li> <li>• Surgical Dressing</li> </ul>
4.	Toilet & Suturing	<ul style="list-style-type: none"> <li>• T&amp;S set</li> <li>• Headlight / Portable Light</li> <li>• Suture material</li> <li>• Suction apparatus</li> <li>• Scalpel Blade</li> <li>• Syringe</li> <li>• Needle</li> </ul>	<ul style="list-style-type: none"> <li>• Local Anesthesia eg: Lignocaine 2% / Marcaine</li> <li>• Adrenaline</li> </ul>
5.	Secondary suturing	<ul style="list-style-type: none"> <li>• Basic ENT / Plastic set</li> <li>• Headlight / Portable Light</li> <li>• Diathermy</li> <li>• Suction apparatus</li> <li>• Scalpel Blade</li> <li>• Needle</li> <li>• Syringe</li> </ul>	<ul style="list-style-type: none"> <li>• Local anesthesia eg: Lignocaine 2% / Marcaine</li> <li>• Adrenaline</li> <li>• Suture material</li> <li>• Surgical Dressing</li> </ul>
6.	Cauterization of Tracheostoma granulation / bleeding	<ul style="list-style-type: none"> <li>• ENT Chair</li> <li>• I &amp; D Set</li> <li>• Headlight / Portable Light</li> <li>• Suction apparatus</li> </ul>	<ul style="list-style-type: none"> <li>• Electrosurgical Cauterization (Diathermy)</li> <li>• Chemical Cauterization (Trichloroacetic Acid / Silver Nitrate)</li> <li>• Local Anesthesia eg: Lignocaine 2% / Marcaine</li> <li>• Adrenaline</li> </ul>
7.	Fine Needle Aspiration Cytology / Tru-cut Biopsy	<ul style="list-style-type: none"> <li>• Syringe 10-20cc</li> <li>• Needle 21G or 23G</li> <li>• Local Anesthetic Spray</li> </ul>	<ul style="list-style-type: none"> <li>• Clinical Microscope</li> </ul>

		<ul style="list-style-type: none"> <li>• Alcohol Swab</li> <li>• Cotton</li> <li>• Hypoallergenic Tape</li> <li>• Glass Slides</li> <li>• Tru-cut Biopsy Needle</li> <li>• Surgical Blade</li> <li>• Specimen Container with Formalin (for tru-cut)</li> </ul>	<ul style="list-style-type: none"> <li>• Diff-Quick solution for fixation</li> </ul>
8.	Aspiration of Head and Neck Cyst	<ul style="list-style-type: none"> <li>• Syringe</li> <li>• Needle</li> <li>• Local Anesthesia Spray</li> <li>• Alcohol Swab</li> <li>• Cotton</li> <li>• Hypoallergenic Tape</li> <li>• Specimen Container</li> </ul>	

**ANNEX C.2d: ASSISTING IN PEDIATRIC MINOR PROCEDURE**

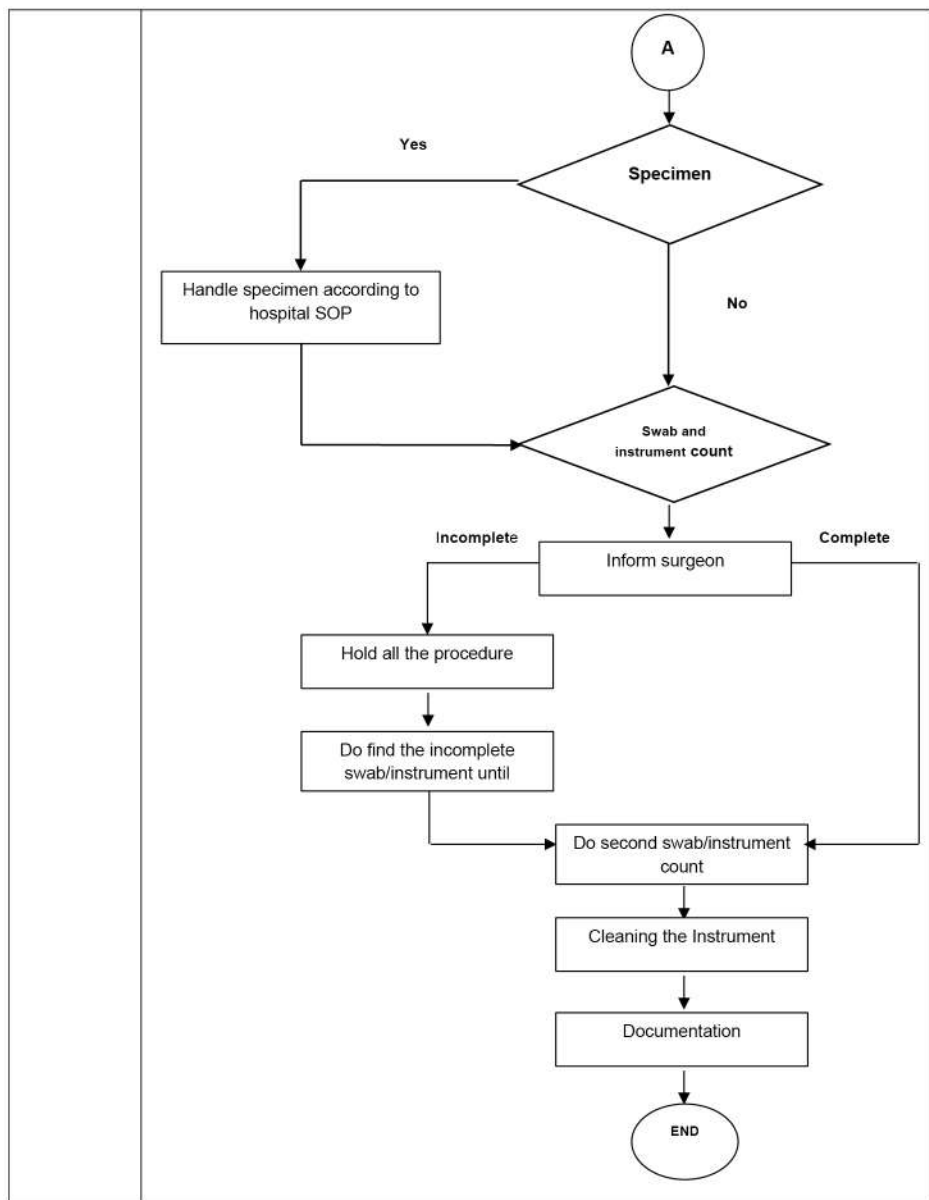
NO	TYPE OF PROCEDURE	EQUIPMENT/REQUIREMENT	REMARK
1.	Release of Tongue Tie / Frenulectomy	<ul style="list-style-type: none"> <li>● T&amp;S set</li> <li>● Nelaton Butterfly probe</li> <li>● Headlight / Portable Light</li> <li>● Iris scissor 11.5cm curved</li> </ul>	<p style="text-align: center;"><b><u>General items:</u></b></p> <ul style="list-style-type: none"> <li>● Diathermy machine</li> <li>● Bipolar Forcep fine tip</li> <li>● Local Anesthesia Solution</li> <li>● Surgical Suture</li> <li>● Diathermy</li> <li>● Suction apparatus</li> <li>● Surgical Blade size 11 / 15</li> <li>● Tracheostomy Tube of same or 1 size smaller</li> <li>● Surgical Suture</li> <li>● Lubricant / KY Jelly</li> <li>● Nasogastric / Suction Tubing for 'Railroad' technique</li> <li>● SPO<sub>2</sub> Machine</li> <li>● Emergency Trolley</li> </ul>
2.	Simple Incision and Drainage	<ul style="list-style-type: none"> <li>● I &amp; D set</li> </ul>	
3.	Change of Tracheostomy Tube	<ul style="list-style-type: none"> <li>● Pediatric Tracheostomy Set</li> </ul>	

## SCRUB ASSISTING IN ORL SURGERY

D.1

### ASSISTING IN COMMON ORL SURGERY IN OPERATION THEATRE

<b>OBJECTIVE</b>	To assist and prepare the instruments/equipment for ORL surgery and ensuring that surgery is carried out systematically and safely, fostering professional teamwork to coordinate care for better patient outcomes before, during, and after the surgery.
<b>SCOPE</b>	All patients who are undergoing ORL surgery.
<b>FLOW CHART</b>	<pre> graph TD     Start([START]) --&gt; Step1[Receive Doctor's Instruction]     Step1 --&gt; Step2[Preparation of Patient]     Step2 --&gt; Step3[Preparation of Equipment / Instruments]     Step3 --&gt; Step4[Scrubbing and Gloving]     Step4 --&gt; Step5[Preparation of Operating Trolley]     Step5 --&gt; Step6[Preparation of surgical site]     Step6 --&gt; Decision{Open Sterile Set / swab count}     Decision -- Incomplete --&gt; Step7[Return to CSSD]     Step7 --&gt; Step8[Document and open new sets]     Step8 --&gt; Step9[Assist the procedure]     Decision -- Complete --&gt; Step9     Step9 --&gt; End([A])   </pre>



## D.1.1 | WORK PROCESS IN ASSISTING OTOTOLOGY SURGERY

ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT
Receive patient	<ul style="list-style-type: none"> <li>● Receive patient in operating room</li> <li>● Verify the check list complying to procedure requirement. eg:- X-ray film, CT scan/MRI, consent and other investigations</li> </ul>		<ul style="list-style-type: none"> <li>● Patient's Bed Head Ticket. (BHT).</li> <li>● Consent for Operation</li> <li>● Safe Surgery Safe Life form – SSL_POCL_09 VER 1.0</li> </ul>
Preparation of patient	<ul style="list-style-type: none"> <li>● Assess condition of patient</li> <li>● Check for correct patient, procedure and side</li> <li>● Check for the written consent</li> <li>● Position patient according to standard practice</li> </ul>	<ul style="list-style-type: none"> <li>● Infection control manual KKM</li> </ul>	<ul style="list-style-type: none"> <li>● Equipment                             <ul style="list-style-type: none"> <li>➢ OT table</li> <li>➢ Pain Score Ruler</li> <li>➢ Surgical Marker</li> <li>➢ Shaver</li> </ul> </li> </ul>
Preparation of equipment / instrument	<ul style="list-style-type: none"> <li>● Prepare Machine according procedure</li> <li>● Prepare Sterile Sets / instruments</li> <li>● Prepare Endoscope &amp; Camera System</li> <li>● Ensure all equipment and instrument are well functioning</li> </ul>		<ul style="list-style-type: none"> <li>● Refer Annex</li> </ul>
Scrubbing, gowning and gloving	<ul style="list-style-type: none"> <li>● Perform surgical hand scrubbing, gowning and gloving according to sterile technique practice</li> </ul>	<ul style="list-style-type: none"> <li>● National Operating Nursing Audit – NORNA ES AF 5.7</li> </ul>	<ul style="list-style-type: none"> <li>● Antiseptic solution.</li> <li>● Sterile Scrub Brushes</li> <li>● Sterile Glove</li> <li>● Surgical Gowns</li> </ul>
Preparation of operating trolley	<ul style="list-style-type: none"> <li>● Layout sterile surgical trolley drape</li> <li>● Unwrapped the sterile instruments or sets</li> <li>● Perform instruments count with a circulating staff based on the instrument checklist</li> <li>● Layout sterile surgical instruments for the procedure</li> <li>● Prepare other requirements / supplements as needed via circulating staff</li> </ul>		<ul style="list-style-type: none"> <li>● Operating Trolley</li> <li>● Sterile supplementary instruments</li> <li>● Sterile Linen</li> </ul>

<p><b>Preparation of operation site</b></p>	<ul style="list-style-type: none"> <li>● Assist in painting and draping of the surgical site according to standard practice</li> </ul>	<ul style="list-style-type: none"> <li>● Infection Control Manual KKM</li> <li>● Refer Manual Operating Book</li> </ul>	
<p><b>Assisting the procedure</b></p>	<ul style="list-style-type: none"> <li>● Fully comply to the standard sterile technique practice</li> <li>● If specimen is taken, handle specimen according to hospital SOP</li> <li>● Do initial compulsory swab and instruments count</li> <li>● Ensure and inform surgeon regarding swab and instruments count</li> <li>● Maintain the sterility of the operating field throughout the procedure</li> <li>● Do initial compulsory second swab and instrument count</li> <li>● <b>Incomplete swab / instrument count:</b> <ul style="list-style-type: none"> <li>➢ Inform surgeon</li> <li>➢ Find until complete / correct amount</li> </ul> </li> <li>● At the end of the procedure:           <ul style="list-style-type: none"> <li>➢ Clean the surgical site</li> <li>➢ Apply appropriate dressing as ordered by doctor</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Otorhinolaryngology Service Operational Policy</li> <li>● National Operating Nursing Audit – NORNA ES AF 5.7</li> </ul>	<ul style="list-style-type: none"> <li>● Refer Annex</li> </ul>
<p><b>Cleaning the instruments</b></p>	<ul style="list-style-type: none"> <li>● Identify and clean all the instruments using cleaning solution and rinse using sterile water</li> <li>● Soak instruments and scope in recommended HLD solution by hospital</li> <li>● Rinse all the items using sterile water and dry it before storage</li> <li>● Send the instruments to CSSD for sterilization</li> </ul>	<ul style="list-style-type: none"> <li>● CSSD Policy KKM 2018</li> <li>● Refer safety data sheet</li> </ul>	<ul style="list-style-type: none"> <li>● CSSD form</li> <li>● HLD soaking solution</li> </ul>

<p><b>Documentation</b></p>	<ul style="list-style-type: none"> <li>● Record and sign in the Safe Surgery Safe Life Form</li> <li>● Record in Operating Procedure Book</li> </ul>		<ul style="list-style-type: none"> <li>● Operating Procedure Book</li> <li>● Safe Surgery Safe Live Form</li> </ul>
<p><b>References</b></p>	<ol style="list-style-type: none"> <li>1. Guidelines On Chemical Management in Health Care Facilities Ministry Of Health 2010</li> <li>2. Central Sterile Supply Services Policy, August 2018</li> <li>3. 2nd edition Guidelines on MOH Safe Surgery Saves Lives Programme</li> <li>4. Policies and Procedures on Infection Prevention and Control Third Edition 2018</li> <li>5. Pain Free Program: Pain Free Manual 2023 (3rd edition)</li> <li>6. Daycare standard operating procedure 1<sup>st</sup> edition, August 2016</li> <li>7. Rothrock, J. C. (2011). Alexander's care of the patient in surgery (14th ed.). St. Louis, MO: Mosby.</li> <li>8. Goyal P,Hwang P, In-office surgical treatment of sinus disease: Office-based surgical procedures in rhinology. <i>Oper Tech Otolaryngol-Head Neck Surg.</i> 2006; 17: 58-65</li> <li>9. Kennedy D.W, Adappa N.D. Endoscopic maxillary antrostomy: Not just a simple procedure. <i>Laryngoscope.</i> 2011; 121: 2142-2145</li> <li>10. Wynn R, Har-El G, Recurrence rates after endoscopic sinus surgery for massive sinus polyposis. <i>Laryngoscope.</i> 2014; 114: 811-813</li> <li>11. Stankiewicz J, Tami T, Truitt T, et al. Transantral, endoscopically guided balloon dilation of the ostiomeatal complex for chronic rhinosinusitis under local anesthesia. <i>Am J Rhinol Allergy.</i> 2009; 23: 321–321.</li> <li>12. Luong A, Batra PS, Fakhri S, Citardi MJ. Balloon catheter dilation for frontal sinus ostium stenosis in the office setting. <i>Am J Rhinol.</i> 2008; 22: 621–624</li> <li>13. Krouse JH, Christmas DA Jr. Powered nasal polypectomy in the office setting. <i>Ear Nose Throat J.</i> 1996; 75: 608</li> <li>14. Kosko J, Casey J. Retropharyngeal and parapharyngeal abscesses: Factors in medical management failure. <i>Ear Nose Throat J.</i> 2017;96(1):E12-e15</li> <li>15. Ronen O, Samant S, Robbins KT. Neck dissection. In: Flint PW, Francis HW, Haughey BH, et al, eds. <i>Cummings Otolaryngology: Head and Neck Surgery.</i> 7th ed. Philadelphia, PA: Elsevier; 2021:chap 118.</li> <li>16. Schumacher J, Aridge J, Dudley D, Sicinski M, Ahmad I. The impact of respiratory protective equipment on difficult airway management: a randomized, crossover, simulation study. <i>Anaesthesia.</i> 2020 Oct;75(10):1301-1306.</li> <li>17. Histopathological evaluation of parotid gland neoplasms in Queensland, Australia 2016, Journal of Laryngology and Otology</li> </ol>		

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**ANNEX D.1a: ASSISTING IN OTOTOLOGY SURGERY**

NO	TYPE OF OPERATION	EQUIPMENT/REQUIREMENT	REMARK
1	Removal of Foreign Body Ear	<ul style="list-style-type: none"> <li>Foreign Body Ear Set</li> </ul>	<p><b>General items:</b></p> <ul style="list-style-type: none"> <li>Operating Microscope</li> <li>Rigid Otoendoscope</li> <li>Camera System and Light Source</li> <li>Local Anesthesia</li> <li>Diathermy machine</li> <li>Suction apparatus</li> <li>Surgical Blade</li> <li>Syringe</li> <li>Needle</li> <li>BIPP</li> <li>Otosilk</li> <li>Suture material</li> </ul>
2	Myringotomy with Ventilation Tube Insertion	<ul style="list-style-type: none"> <li>Myringotomy Set</li> <li>Ventilation Tube</li> </ul>	
3	Myringoplasty	<ul style="list-style-type: none"> <li>Myringoplasty Set</li> <li>Gel Foam</li> </ul>	
4	Canalplasty	<ul style="list-style-type: none"> <li>Myringoplasty Set</li> <li>Facial Nerve Monitor</li> <li>High Speed Drill</li> </ul>	
5	Mastoidectomy / Lateral skull base surgery	<ul style="list-style-type: none"> <li>Mastoidectomy Set</li> <li>Facial Nerve Monitor</li> <li>High Speed Drill</li> <li>Integrated Power Console System</li> <li>Water for Irrigation with Tubing</li> <li>Mastoid Bandage</li> </ul>	
6	Bone Anchored Hearing Aid (BAHA)	<ul style="list-style-type: none"> <li>Mastoidectomy Set</li> <li>Bone Anchored Hearing Aid Set</li> <li>High Speed Drill</li> </ul>	
7	Cochlear Implant (CI)	<ul style="list-style-type: none"> <li>Mastoidectomy Set</li> <li>Cochlear Implant Set</li> <li>Facial Nerve Monitor</li> <li>High Speed Drill</li> <li>Integrated Power Console System</li> <li>Water for Irrigation with tubing</li> </ul>	

**ANNEX D.1b : ASSISTING IN RHINOLOGY SURGERY**

NO	TYPE OF OPERATION	EQUIPMENT / REQUIREMENT	REMARK
1	Nasal bone reduction	<ul style="list-style-type: none"> <li>• Dressing Set</li> <li>• Nasal Bone Reduction Set</li> </ul>	<p><b>General items:</b></p> <ul style="list-style-type: none"> <li>• Surgical Dressing</li> <li>• Nasal Packing</li> <li>• External Nasal Splint</li> <li>• Microdebrider Turbino Blade</li> <li>• Radiofrequency Probe (optional)</li> <li>• Absorbable Suture</li> <li>• Image Guided System (optional)</li> <li>• Specimen Container</li> <li>• Formaldehyde</li> <li>• Pathology Form</li> </ul>
2	Turbinoplasty / Turbinate reduction surgery	<ul style="list-style-type: none"> <li>• ESS Set</li> <li>• SMR Set</li> <li>• Camera system with light source / Cable</li> <li>• Rigid Nasal Endoscope</li> <li>• Bipolar Diathermy</li> <li>• Surgical blade</li> <li>• Integrated Power Console with Microdebrider System</li> <li>• Suction apparatus</li> </ul>	
3	Septoplasty	<ul style="list-style-type: none"> <li>• Septoplasty / SMR set</li> <li>• Rigid nasal endoscope</li> <li>• Camera System with Light Source / Cable</li> <li>• Bipolar Diathermy</li> <li>• Surgical Blade</li> <li>• Suction apparatus</li> </ul>	
4	Endoscopic Sinus Surgery / Anterior skull base surgery	<ul style="list-style-type: none"> <li>• ESS Set</li> <li>• Rigid Nasal Endoscope</li> <li>• Camera System with Light Source / Cable</li> <li>• Suction apparatus</li> <li>• Integrated Power Console with Microdebrider System</li> <li>• Straight / Curved Tri-cut Blade</li> </ul>	
5	Rhinoplasty	<ul style="list-style-type: none"> <li>• Rhinoplasty Set</li> <li>• Rigid Nasal Endoscope</li> <li>• Camera System with Light Source / Cable</li> <li>• Bipolar Diathermy</li> <li>• Suction apparatus</li> <li>• Surgical Blade</li> </ul>	

**ANNEX D.1c : ASSISTING IN HEAD AND NECK SURGERY**

NO	TYPE OF OPERATION	EQUIPMENT / REQUIREMENT	REMARK
1.	Adenoidectomy / Tonsillectomy / Palatal Surgery	<ul style="list-style-type: none"> <li>● Tonsillectomy Set</li> <li>● Laryngeal Mirror</li> <li>● Headlight / Light Source</li> <li>● Tonsil Square Gauze</li> <li>● Ribbon Gauze for Throat pack</li> </ul>	
2.	Endoscopic Laryngeal Microsurgery / Direct laryngoscopy	<ul style="list-style-type: none"> <li>● DL Endoscope Set</li> <li>● ELMS Set</li> <li>● Laryngeal Instruments Set</li> <li>● Chest Support</li> <li>● Rigid Telescope</li> <li>● Operating Microscope</li> <li>● Camera System with Light Source / Cable</li> <li>● Laser Machine &amp; accessories (optional)</li> </ul>	<p><b>General items:</b></p> <ul style="list-style-type: none"> <li>● Anti-Fogging solution</li> <li>● Lubricant</li> <li>● Suction apparatus</li> <li>● Suction Tubing</li> <li>● Suction Machine</li> <li>● Diathermy Machine &amp; Tip (Mono &amp; Bipolar)</li> <li>● Local Anesthesia solution</li> <li>● Syringe &amp; Needle</li> <li>● Gauze</li> <li>● Ribbon Gauze ½ inch</li> <li>● Adrenaline 1:1000</li> <li>● Surgical Marker Pen</li> <li>● Specimen Bottle with Formalin</li> <li>● Film Dressing</li> </ul>
3.	Tracheostomy	<ul style="list-style-type: none"> <li>● Tracheostomy Set / Baby Appendix Set</li> <li>● Tracheostomy Tube Set (cuffed)</li> <li>● Suture material</li> <li>● Surgical Blade</li> <li>● Suture material</li> <li>● Keyhole Dressing/ Tracheo-Foam</li> </ul>	
4.	Submandibulectomy	<ul style="list-style-type: none"> <li>● Baby Appendix set / ENT Plastic Set</li> <li>● Surgical Blade</li> <li>● Suture material</li> </ul>	
5.	Thyroidectomy	<ul style="list-style-type: none"> <li>● Major set /Small set</li> <li>● Baby appendix set</li> <li>● Thyroidectomy set</li> <li>● Absorbable suture/Non absorbable suture</li> <li>● Retractor Lonestar (optional)</li> <li>● Surgical Blade</li> <li>● Suture material</li> <li>● Nerve Monitoring System (optional if EMG Endotracheal Tube is used)</li> </ul>	

6.	Parotidectomy	<ul style="list-style-type: none"> <li>● Major Set / Small Set</li> <li>● Baby Appendix Set</li> <li>● Surgical Blade</li> <li>● Suture material</li> <li>● Suction apparatus</li> <li>● Specimen Bottle with Formalin</li> </ul>	<ul style="list-style-type: none"> <li>● Facial Nerve Monitor</li> <li>● Local Anesthesia solution</li> <li>● Syringe &amp; Needle</li> <li>● Surgical Marker Pen</li> <li>● Vacuum Drain Set</li> <li>● Diathermy Machine &amp; Tip (mono and bipolar)</li> <li>● Vessel Loop</li> <li>● Film Dressing</li> <li>● Harmonic Scalpel Set (optional)</li> </ul>
7.	Neck dissection with or without reconstruction	<ul style="list-style-type: none"> <li>● Major Set / Small Set</li> <li>● Baby Appendix Set</li> <li>● Thyroidectomy Set</li> <li>● Retractor Lonestar (optional)</li> <li>● Surgical Blade</li> <li>● Suture material</li> <li>● Suction apparatus</li> <li>● Specimen Bottle with Formalin</li> </ul>	<ul style="list-style-type: none"> <li>● Local Anaesthesia solution</li> <li>● Syringe &amp; Needle</li> <li>● Surgical Marker Pen</li> <li>● Vacuum Drain Set</li> <li>● Diathermy Machine and Tip (mono &amp; bipolar)</li> <li>● Vessel Loop</li> <li>● Film Dressing</li> <li>● Harmonic Scalpel Set (optional)</li> </ul>
8.	Laryngectomy	<ul style="list-style-type: none"> <li>● Major Set / Small Set</li> <li>● Baby Appendix Set</li> <li>● Thyroidectomy Set</li> <li>● Tracheostomy Set</li> <li>● Retractor Lonestar (optional)</li> <li>● Surgical Blade</li> <li>● Suture material</li> </ul>	<ul style="list-style-type: none"> <li>● Local Anesthesia solution</li> <li>● Syringe &amp; Needle</li> <li>● Surgical Marker Pen</li> </ul>

		<ul style="list-style-type: none"> <li>● Suction apparatus</li> <li>● Specimen Bottle with Formalin</li> </ul>	<ul style="list-style-type: none"> <li>● Vacuum Drain Set</li> <li>● Tracheostomy Tube (cuffed)</li> <li>● Diathermy Machine and Tip (mono &amp; bipolar)</li> <li>● Harmonic Scalpel Set (optional)</li> </ul>
9.	COMMANDO (Combine Mandibulectomy and Neck Dissection Operation) with or without reconstruction (Pedicle Flap or Free Flap)	<ul style="list-style-type: none"> <li>● Major Set / Small Set</li> <li>● Appendix set</li> <li>● Thyroidectomy set</li> <li>● Tracheostomy set</li> <li>● Retractor Lonestar (optional)</li> <li>● Surgical blade</li> <li>● Suture material</li> <li>● Suction apparatus</li> <li>● Specimen container with formalin</li> <li>● Micro-Instrument Set for Vascular Surgery (for Free/Distant Flap)</li> </ul>	<ul style="list-style-type: none"> <li>● Local Anesthesia solution</li> <li>● Surgical Marker Pen</li> <li>● Vacuum Drain Set</li> <li>● Tracheostomy Tube (cuffed)</li> <li>● Diathermy Machine with Tip (mono &amp; bipolar)</li> <li>● Miniplates and Screws (2.0 mm)</li> <li>● Pneumatic Drill bur with Oscillating / Reciprocating Saw (1.6 mm Drill Bur)</li> <li>● Harmonic Scalpel Set (optional)</li> <li>● Film Dressing</li> </ul>
10.	Mandibulectomy	<ul style="list-style-type: none"> <li>● Major Set / Small Set</li> <li>● Appendix Set</li> <li>● Tracheostomy Set</li> <li>● Retractor Lonestar (optional)</li> <li>● Surgical Blade</li> <li>● Suture material</li> <li>● Suction apparatus</li> </ul>	<ul style="list-style-type: none"> <li>● Local Anesthesia solution</li> <li>● Surgical Marker Pen</li> <li>● Vacuum drain Set</li> <li>● Tracheostomy Tube (cuffed)</li> </ul>

			<ul style="list-style-type: none"> <li>● Diathermy Machine with Tip (mono &amp; bipolar)</li> <li>● Miniplates &amp; Screws (5.0 mm)</li> <li>● Pneumatic Drill Bur with Oscillating / Reciprocating saw (3.0 mm drill bur)</li> <li>● Film dressing</li> </ul>
11.	Glossectomy	<ul style="list-style-type: none"> <li>● Major Set / Small Set</li> <li>● Baby Appendix Set</li> <li>● Tracheostomy Set</li> <li>● Surgical Blade</li> <li>● Suture material</li> <li>● Suction apparatus</li> </ul>	<ul style="list-style-type: none"> <li>● Local Anesthesia solution</li> <li>● Surgical Marker Pen</li> <li>● Vacuum Drain Set</li> <li>● Tracheostomy Tube (cuffed)</li> <li>● Diathermy Machine with Tip (mono &amp; bipolar)</li> <li>● Harmonic Scalpel Set (optional)</li> </ul>
12.	Head & Neck Lumps and Bumps	<ul style="list-style-type: none"> <li>● Appendix Set</li> <li>● Plastic Set</li> <li>● Surgical Blade</li> <li>● Suture material</li> <li>● Suction apparatus</li> </ul>	<ul style="list-style-type: none"> <li>● Local Anesthesia solution</li> <li>● Surgical Marker Pen</li> <li>● Vacuum Drain Set</li> <li>● Diathermy Machine with Tip (mono &amp; bipolar)</li> <li>● Harmonic Scalpel Set (optional)</li> <li>● Vessel Loop</li> <li>● Film Dressing</li> </ul>

13.	Laryngeal balloon dilatation	<ul style="list-style-type: none"> <li>● DL Scope Set</li> <li>● ELMS Set</li> <li>● Laryngeal Instrument Set</li> <li>● Chest Support</li> <li>● Rigid Telescope</li> <li>● Operating Microscope</li> <li>● Camera System with Light Source / Cable</li> <li>● Laryngeal Balloon Set of appropriate size</li> </ul>	<ul style="list-style-type: none"> <li>● Anti-Fogging solution</li> <li>● Lubricant</li> <li>● Suction apparatus</li> <li>● Suction Tubing</li> <li>● Suction Machine</li> <li>● Diathermy Machine with Tip</li> <li>● Local Anesthesia solution</li> <li>● Syringe</li> <li>● Gauze</li> <li>● Adrenaline 1:1000</li> <li>● Ribbon Gauze ½ inch</li> </ul>
14.	Bronchoscopy and / or Oesophagoscopy	<ul style="list-style-type: none"> <li>● Bronchoscopy Set</li> <li>● Oesophagoscopy Set</li> <li>● DL Scope Set</li> <li>● Chest Support</li> <li>● Rigid Telescope</li> <li>● Camera System with Light Source / Cable</li> <li>● Various Optical Forceps</li> </ul>	<ul style="list-style-type: none"> <li>● Anti-Fogging solution</li> <li>● Lubricant</li> <li>● Suction apparatus</li> <li>● Suction Tubing</li> <li>● Suction Machine</li> <li>● Gauze</li> <li>● Adrenaline 1:1000</li> <li>● Ribbon Gauze ½ inch</li> </ul>

**ANNEX D.1d : ASSISTING IN PAEDIATRIC OTORHINOLARYNGOLOGY SURGERY**

NO	TYPE OF OPERATION	EQUIPMENT / REQUIREMENT	REMARK
1.	Examination Under Anesthesia (EUA) and Direct Laryngoscopy	<ul style="list-style-type: none"> <li>● Camera System with Dual Light Sources Carrier / Cables.</li> <li>● Rigid Telescope various size</li> <li>● Pediatric laryngoscope set of various sizes</li> <li>● Laryngeal Instruments Set</li> <li>● Steel Suction Tube</li> <li>● Disposable Dressing Set</li> <li>● Chest Support Holder</li> <li>● Benjamin Light Clip / Light Carrier</li> </ul>	<p><b>General items:</b></p> <ul style="list-style-type: none"> <li>● Anti-Fogging Solution</li> <li>● Lubricant Jelly</li> <li>● Normal Saline</li> <li>● Adrenaline 1mg / ml</li> <li>● Suction Tubing</li> <li>● Suction Machine</li> <li>● Surgical Blade (if tracheostomy needed)</li> <li>● Suture Material</li> <li>● Silastic Sheet</li> <li>● Nasal Packing</li> <li>● Surgical Marker Pen</li> <li>● Diathermy Machine with Tip (mono and bipolar)</li> <li>● Gauze</li> </ul>
2.	Supraglottoplasty / Epiglottopexy	<ul style="list-style-type: none"> <li>● Camera system with dual light sources carrier/cables.</li> <li>● Rigid Telescope various size</li> <li>● Pediatric laryngoscope set of various sizes</li> <li>● Laryngeal instruments set</li> <li>● Steel suction tube</li> <li>● Disposable dressing set</li> <li>● Chest support holder</li> <li>● Benjamin light clip / light carrier</li> </ul>	
3.	Endoscopic Balloon Dilatation of Subglottic Stenosis	<ul style="list-style-type: none"> <li>● Camera System with Dual Light Sources Carrier / Cable</li> <li>● Rigid Telescope various sizes</li> <li>● Pediatric Laryngoscope Set of various sizes</li> <li>● Laryngeal Instruments Set</li> <li>● Steel Suction Tube</li> <li>● Disposable Dressing Set</li> <li>● Chest Support Holder</li> <li>● Pediatric Laryngeal Balloon set of appropriate size (5-7 mm)</li> </ul>	
4.	EXIT Procedure	<ul style="list-style-type: none"> <li>● Camera System with Dual Light Sources Carrier / Cable</li> <li>● Pediatric Bronchoscopy Set</li> <li>● Pediatric Laryngoscope Set</li> <li>● Pediatric Flexible Bronchoscope (1.9mm or 2.1mm)</li> <li>● Pediatric Tracheostomy Set</li> <li>● Pediatric Tracheostomy Tube various size</li> <li>● Straight Laryngeal Blade Scope</li> <li>● Pediatric Endotracheal Tube</li> <li>● Steel Suction Tube</li> </ul>	

5.	Endoscopic Repair of Choanal Atresia / Congenital Nasal Piriform Aperture Stenosis (CNPAS)	<ul style="list-style-type: none"> <li>● Camera System with Dual Light Sources Carrier / cable</li> <li>● Otology Micro Instruments Set</li> <li>● Pediatric FESS Set</li> <li>● Integrated Power Console with Microdebrider and Highspeed Drill</li> <li>● Dilators – Bougies / Balloon / ETT</li> <li>● Rigid Telescope various size</li> </ul>	
6.	Tracheostomy in Pediatric	<ul style="list-style-type: none"> <li>● Tracheostomy Set / Baby Appendix Set</li> <li>● Pediatric Tracheostomy Tube</li> <li>● Suture material</li> <li>● Surgical Blade</li> <li>● Suture material</li> <li>● Keyhole Dressing / Tracheo-Foam</li> </ul>	

## PERFORMED PROCEDURES IN WARD

E.1

## POLYSOMNOGRAPHY (PSG) PROCEDURE

<b>OBJECTIVE</b>	To perform and assess severity of sleep breathing disorder.
<b>SCOPE</b>	All patient with sleep breathing disorder.
<b>FLOW CHART</b>	<pre> graph TD     START([START]) --&gt; A[Receive Doctor's Instruction]     A --&gt; B[Registration]     B --&gt; C[Assessment / Examination]     C --&gt; D{Abnormalities}     D -- NO --&gt; E[Hook up patient]     E --&gt; F[Monitoring PSG Parameter]     F --&gt; G{Abnormalities}     G -- YES --&gt; H[Refer Doctors]     G -- NO --&gt; I[Un Hook Patient]     I --&gt; J[Documentation]     H --&gt; J     D -- YES --&gt; H     J --&gt; END([END])   </pre>

## E.1.1 | WORK PROCESS FOR POLYSOMNOGRAPHY (PSG) PROCEDURE

ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT
Receive Instruction	<ul style="list-style-type: none"> <li>● Read and understand doctor's instruction</li> </ul>		
Registration	<ul style="list-style-type: none"> <li>● Register patient in the procedure book</li> <li>● Patient's particular:               <ul style="list-style-type: none"> <li>➢ Date</li> <li>➢ Name</li> <li>➢ RN / IC</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
Preparation of patient	<ul style="list-style-type: none"> <li>● Assess condition of patient.</li> <li>● Check for correct patient and procedure</li> <li>● Check vital sign:               <ul style="list-style-type: none"> <li>➢ Blood pressure</li> <li>➢ Pulse</li> <li>➢ SpO<sub>2</sub></li> <li>➢ Temp</li> <li>➢ Respiratory rate</li> <li>➢ Pain score</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Pain As The 5th Vital Sign Guidelines 3rd Edition 2018</li> </ul>	<ul style="list-style-type: none"> <li>● Thermometer</li> <li>● BP Set</li> <li>● Pulse Oximeter</li> </ul>
Assessment / Examination	<ul style="list-style-type: none"> <li>● Assess for any abnormality at the skin and scalp</li> <li>● Refer doctors if patient have any abnormalities Eg:               <ul style="list-style-type: none"> <li>➢ Head lice</li> <li>➢ Severe psoriasis</li> </ul> </li> <li>● Obtain consent from patient</li> </ul>	<ul style="list-style-type: none"> <li>● Peraturan – peraturan data peribadi 2013 [P.U(A)335/2013]</li> </ul>	<ul style="list-style-type: none"> <li>● Consent Form</li> </ul>
Hook Up patient	<ul style="list-style-type: none"> <li>● Perform the procedure according to AASM Guidelines</li> </ul>	<ul style="list-style-type: none"> <li>● AASM 2023 Guideline</li> <li>● Clinical Practice Guidelines MOH/P/PAK/503.22(GU)-e</li> <li>● MOH Policies &amp; Procedures on Infection Prevention and Control 2019</li> </ul>	<ul style="list-style-type: none"> <li>● PPE</li> <li>● Ten 20 Paste</li> <li>● Nuprep Gel</li> <li>● Measuring Tape</li> <li>● Alcohol Swab</li> <li>● Gauze</li> <li>● Marker</li> <li>● Cotton Bud</li> <li>● Hypafix or Electrofix Dressing</li> <li>● Positive Airway Pressure Mask</li> <li>● Electroencephalography electrodes</li> <li>● Electrocardiography electrodes</li> <li>● Electrooculogram electrodes</li> </ul>

			<ul style="list-style-type: none"> <li>● Electromyography electrodes</li> <li>● Periodic Leg Movements Electrodes</li> <li>● SpO<sub>2</sub> Probe</li> <li>● Flash Card</li> <li>● Card Reader</li> <li>● Thoracoabdominal Belt</li> <li>● Sleep Analyzer Polysomnography with Computer System and Data Acquisition Software</li> </ul>
<b>Monitoring PSG Parameter</b>	<ul style="list-style-type: none"> <li>● Minimum of 4 hours recording based on the level of PSG used</li> <li>● Inform doctors if patient have any abnormalities Eg: <ul style="list-style-type: none"> <li>✓ Cardiopulmonary emergency, eg: <ul style="list-style-type: none"> <li>➢ Asystole greater than 10 seconds (check backup lead first) Asystole 710s</li> <li>➢ Ventricular Tachycardia greater than 10 seconds VT &gt; 10 sec</li> <li>➢ Ventricular Fibrillation V F</li> </ul> </li> <li>✓ respiratory event - patient reported symptoms that may lead to an emergency situation</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● American Academy of Sleep Medicine Guideline (AASM)</li> <li>● Clinical Practice Guidelines, Published in 2023, MOH/P/PAK/503.22(GU)-e</li> </ul>	<p>Polysomnography (PSG) System:</p> <ul style="list-style-type: none"> <li>● Level 1 PSG <ul style="list-style-type: none"> <li>➢ Done overnight in Sleep Lab Hospital with Full PSG with attended Sleep Technologist</li> </ul> </li> <li>● Level 2 PSG <ul style="list-style-type: none"> <li>➢ Done overnight in Sleep Lab Hospital with Full PSG with unattended Sleep Technologist</li> </ul> </li> <li>● Level 3 PSG <ul style="list-style-type: none"> <li>➢ Minimum of 4 channels (2 Respiratory Effort and Airflow, Heart Rate (HR) / ECG, O<sub>2</sub> saturation)</li> </ul> </li> <li>● Level 4 PSG <ul style="list-style-type: none"> <li>➢ Minimum of 1 channel: O<sub>2</sub> Saturation, Respiratory Effort</li> </ul> </li> </ul>
<b>Unhook Patient</b>	<ul style="list-style-type: none"> <li>● Remove all the electrodes</li> <li>● Clean all electrodes</li> </ul>		<ul style="list-style-type: none"> <li>● Hot water</li> <li>● Alcohol Swab</li> <li>● Disinfectant Solution / Wipe</li> </ul>
<b>Documentation</b>	<ul style="list-style-type: none"> <li>● Record all patient's activity over the night</li> <li>● Record any abnormal sleep behavior</li> <li>● Appointment given to see MO or Specialist</li> </ul>		

## References

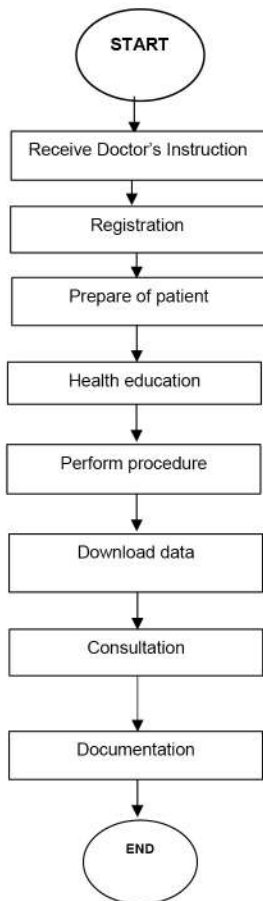
1. American Academy of Sleep Medicine Guideline (AASM), <https://aasm.org/clinical-resources/practice-standards/practice-guidelines/>
2. Otorhinolaryngology Sleep service Guidelines, Published in 2021, MOH/P/PAK/458.21(GU)
3. Clinical Practice Guidelines, Published in 2023, MOH/P/PAK/503.22(GU)-e
4. Meir H Kryger et al. (2019). Management of Obstructive Sleep Apnoea in adults, viewed 8 August 2019, <https://www.uptodate.com/contents/management-of-obstructive-sleep-apnoea-in-adults>
5. Kushida CA, Littner MR, Hirshkowitz M, et al. (2006). Practice parameters for the use of continuous and bilevel positive airway pressure devices to treat adult patients with sleep-related breathing disorders. *Sleep*, 29, pp 375-80.

**OBJECTIVE**

To desensitize patient to PAP therapy and establish a reference setting of PAP pressure before applying for PAP trial.

**SCOPE**

All patients undergoing for PAP therapy.

**FLOW  
CHART**

## E.2.1 | WORK PROCESS FOR POSITIVE AIRWAY PRESSURE NAP

ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT
Receive instruction	<ul style="list-style-type: none"> <li>● Read and understand doctor's instruction</li> </ul>		
Registration	<ul style="list-style-type: none"> <li>● Register patient in the procedure book</li> <li>● Patient's particular:               <ul style="list-style-type: none"> <li>➢ Date</li> <li>➢ Name</li> <li>➢ RN / IC</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
Preparation of patient	<ul style="list-style-type: none"> <li>● Assess condition of patient.</li> <li>● Check for correct patient and procedure</li> <li>● Check vital sign:               <ul style="list-style-type: none"> <li>➢ Blood Pressure</li> <li>➢ Pulse</li> <li>➢ SpO<sub>2</sub></li> <li>➢ Temp</li> <li>➢ Respiratory Rate</li> <li>➢ Pain Score</li> </ul> </li> <li>● Obtain Consent from patient</li> </ul>	<ul style="list-style-type: none"> <li>● Pain As The 5th Vital Sign Guidelines 3rd Edition 2018</li> <li>✓ Peraturan – peraturan data peribadi 2013 [P.U(A)335/2013]</li> </ul>	<ul style="list-style-type: none"> <li>● Thermometer</li> <li>● BP Set</li> <li>● Pulse Oximeter</li> <li>● Consent Form</li> </ul>
Health education	<ul style="list-style-type: none"> <li>● Provide demonstration and education about the problems and treatment of OSA</li> </ul>	<a href="http://myhealth.moh.gov.my/obstructive-sleep-apnoea/">http://myhealth.moh.gov.my/obstructive-sleep-apnoea/</a>	
Perform procedure	<ul style="list-style-type: none"> <li>● Setup pressure setting minimum pressure 4cmH<sub>2</sub>O and maximum pressure 20cmH<sub>2</sub>O</li> <li>● Briefing and demonstrate patient on PAP machine handling technique</li> <li>● Patient will be provided 2-hours nap using PAP device</li> <li>● AMO will monitor the patient</li> <li>● Any abnormal sleep behavior will be recorded</li> </ul>	<ul style="list-style-type: none"> <li>● AASM 2023 guideline</li> <li>● Clinical practice guidelines MOH/P/PAK/503.22(GU)-e</li> <li>● MOH policies &amp; Procedures on Infection Prevention and control 2019</li> </ul>	<ul style="list-style-type: none"> <li>● PAP device</li> </ul>
Download data	<ul style="list-style-type: none"> <li>● Review PAP Nap data               <ul style="list-style-type: none"> <li>➢ AHI</li> <li>➢ Mask leakage</li> <li>➢ Patient comfort</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>● Computer System</li> <li>● Card Reader</li> <li>● PAP application</li> <li>● Memory Card</li> </ul>
Consultation	<ul style="list-style-type: none"> <li>● Provide explanation on the results of PAP Nap</li> </ul>		

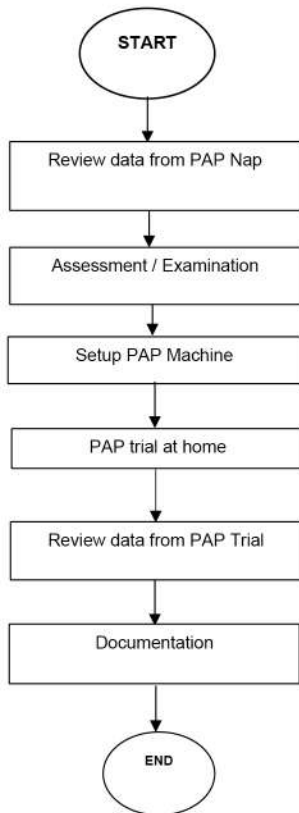
<b>Documentation</b>	<ul style="list-style-type: none"> <li>● Record all patient's activity during the nap session.</li> </ul>		<ul style="list-style-type: none"> <li>● Computer System</li> <li>● Printer</li> </ul>
<b>References</b>	<ol style="list-style-type: none"> <li>1. American Academy of Sleep Medicine Guideline (AASM), <a href="https://aasm.org/clinical-resources/practice-standards/practice-guidelines/">https://aasm.org/clinical-resources/practice-standards/practice-guidelines/</a></li> <li>2. Otorhinolaryngology Sleep service Guidelines, Published in 2021, MOH/P/PAK/458.21(GU)</li> <li>3. Clinical Practice Guidelines, Published in 2023, MOH/P/PAK/503.22(GU)-e</li> <li>4. Meir H Kryger et al. (2019). Management of Obstructive Sleep Apnoea in adults, viewed 8 August 2019, <a href="https://www.uptodate.com/contents/management-of-obstructive-sleep-apnoea-in-adults">https://www.uptodate.com/contents/management-of-obstructive-sleep-apnoea-in-adults</a></li> <li>5. Ballester E, Badia JR, Hernandez L, et al. (1999). Evidence of the effectiveness of continuous positive airway pressure in the treatment of sleep apnoea/hypopnea syndrome. <i>Am J Respir Crit Care Med.</i> 159(2), pp 495-501.</li> <li>6. Kushida CA, Littner MR, Hirshkowitz M, et al. (2006). Practice parameters for the use of continuous and bilevel positive airway pressure devices to treat adult patients with sleep-related breathing disorders. <i>Sleep</i>, 29, pp 375-80.</li> </ol>		

**E.3****POSITIVE AIRWAY PRESSURE (PAP) TRIAL****OBJECTIVE**

To monitor and determine an appropriate setting pressure of Positive Airway Pressure (PAP) tailored to the patient's needs.

**SCOPE**

All patients who are diagnosed with obstructive sleep apnea through polysomnography procedure.

**FLOW  
CHART**

### E.3.1 | WORK PROCESS FOR POSITIVE AIRWAY PRESSURE TRIAL

ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT
Review data from PAP Nap	<ul style="list-style-type: none"> <li>Review PAP Nap data:                             <ul style="list-style-type: none"> <li>AHI</li> <li>Mask leakage</li> <li>Selection comfort mask</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>Computer System</li> <li>Card Reader</li> <li>PAP application</li> <li>Memory Card</li> </ul>
Assessment / Examination	<ul style="list-style-type: none"> <li>Obtain consent from patient</li> <li>Fill in the ESS form to screen severity of OSA after using PAP Machine</li> <li>Prepare all the documents needed</li> <li>Asses Pain Score</li> </ul>	Pain As The 5th Vital Sign Guidelines 3rd Edition 2018	<ul style="list-style-type: none"> <li>Consent Form</li> <li>Guaranty Letter</li> <li>KEW PA 6/9</li> <li>Loaning Document (Lampiran 1&amp;2)</li> <li>Gazette Document</li> </ul>
Setup PAP Machine	<ul style="list-style-type: none"> <li>Setup machine according to PAP Nap result</li> </ul>	<ul style="list-style-type: none"> <li>AASM 2023 guideline</li> </ul>	<ul style="list-style-type: none"> <li>PAP Device</li> </ul>
PAP Trial at home	<ul style="list-style-type: none"> <li>PAP trial is done for 1 -2 week at home</li> <li>Patient need to inform AMO for any problem during PAP Trial</li> </ul>	<ul style="list-style-type: none"> <li>Clinical practice guidelines MOH/P/PAK/503.22(GU)-e</li> </ul>	
Review data from PAP Trial	<ul style="list-style-type: none"> <li>Download PAP data after PAP trial done</li> <li>Review PAP trial data:                             <ul style="list-style-type: none"> <li>AHI</li> <li>Mask leakage</li> <li>Patient comfort</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>Computer System</li> <li>Card Reader</li> <li>PAP application</li> <li>Memory Card</li> </ul>
Documentation	<ul style="list-style-type: none"> <li>Record all patient's activity during the PAP trial session</li> <li>Give appointment to see MO for further management</li> </ul>		<ul style="list-style-type: none"> <li>Computer System</li> <li>Printer</li> </ul>
References	<ol style="list-style-type: none"> <li>American Academy of Sleep Medicine Guideline (AASM), <a href="https://aasm.org/clinical-resources/practice-standards/practice-guidelines/">https://aasm.org/clinical-resources/practice-standards/practice-guidelines/</a></li> <li>Otorhinolaryngology Sleep service Guidelines, Published in 2021, MOH/P/PAK/458.21(GU)</li> <li>Clinical Practice Guidelines, Published in 2023, MOH/P/PAK/503.22(GU)-e</li> <li>Kushida, C., Littner, M., Hirshkowitz, M., Morgenthaler, T., Alessi, C., Bailey, D., Boehlecke, B., Brown, T., Coleman, J., Friedman, L., Kapen, S., Kapur, V., Kramer, M., Lee-Chiong, T., Owens, J., Pancer, J., Swick, T. and Wise, M. (2006). Practice Parameters for the Use of Continuous and Bilevel Positive Airway Pressure Devices to Treat Adult Patients With Sleep- Related Breathing Disorders. <i>Sleep</i>, 29(3), pp.375-380</li> <li>Jokic R, Klimaszewski A, Crossley M, et al. (1999). Positional Treatment vs Continuous Positive Airway Pressure in Patients With Positional Obstructive Sleep Apnoea Syndrome. <i>Chest</i>, 115 (3), pp 771-781.</li> </ol>		

## E.4


## TITRATION PROCEDURE

<b>OBJECTIVE</b>	To monitor and titrate accordingly the available pressure for treatment with the Positive Airway Pressure (PAP) machine.
<b>SCOPE</b>	All patients who fail in the PAP trial conducted.
<b>FLOW CHART</b>	<pre> graph TD     START([START]) --&gt; A[Receive Doctor's Instruction]     A --&gt; B[Registration]     B --&gt; C[Preparation of patient]     C --&gt; D[Assessment / Examination]     D --&gt; E{Abnormalities}     E -- NO --&gt; F[Hook up patient]     F --&gt; G[Monitoring PSG and Titration Parameter]     G --&gt; H{Abnormalities}     H -- YES --&gt; I[Refer Doctor]     H -- NO --&gt; J[Un Hook Patient]     I --&gt; K[Documentation]     J --&gt; K     K --&gt; L([END])   </pre>

## E.4.1 | WORK PROCESS ON TITRATION PROCEDURE

ACTIVITY	WORK PROCESS	STANDARD	REQUIREMENT
Receive instruction	<ul style="list-style-type: none"> <li>● Read and understand doctor's instruction</li> </ul>		
Registration	<ul style="list-style-type: none"> <li>● Register patient in the procedure book</li> <li>● Patient's particular:                             <ul style="list-style-type: none"> <li>➢ Date</li> <li>➢ Name</li> <li>➢ RN / IC</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>● Otorhinolaryngology file or Out Patient Card (Perubatan 96 – Pin. 1/78 or Patient Medical Record or Procedure Slip</li> <li>● HIS / EMR / Procedure Registration Book</li> </ul>
Preparation of patient	<ul style="list-style-type: none"> <li>● Assess condition of patient.</li> <li>● Check for correct patient and procedure</li> <li>● Monitor vital sign:                             <ul style="list-style-type: none"> <li>➢ Blood Pressure</li> <li>➢ Pulse</li> <li>➢ SpO<sub>2</sub></li> <li>➢ Temp</li> <li>➢ Respiratory Rate</li> <li>➢ Pain Score</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Pain As The 5th Vital Sign Guidelines 3rd Edition 2018</li> </ul>	<ul style="list-style-type: none"> <li>● Thermometer</li> <li>● BP Set</li> <li>● Pulse Oxymeter</li> </ul>
Assessment / Examination	<ul style="list-style-type: none"> <li>● Assess for any abnormality at the skin and scalp</li> <li>● Refer doctor's if patient have any abnormalities Eg:                             <ul style="list-style-type: none"> <li>➢ Head Lice</li> <li>➢ Severe Psoriasis</li> </ul> </li> <li>● Obtain consent from patient</li> </ul>	<ul style="list-style-type: none"> <li>● MSQH</li> <li>● Peraturan – peraturan data peribadi 2013 [P.U(A)335/2013]</li> </ul>	<ul style="list-style-type: none"> <li>● Consent Form</li> </ul>
Hook up patient	<ul style="list-style-type: none"> <li>● Perform the procedure according to AASM Guidelines</li> </ul>	<p>AASM 2023 Guideline</p> <p>Clinical practice Guidelines MOH/P/PAK/503.22(GU)-e</p> <p>MOH policies &amp; Procedures on Infection Prevention and Control 2019</p>	<ul style="list-style-type: none"> <li>● Universal precaution – Apron, Mask, Glove, etc</li> <li>● Ten 20 Paste</li> <li>● Nuprep Gel</li> <li>● Measuring Tape</li> <li>● Alcohol Swab</li> <li>● Gauze</li> <li>● Marker</li> <li>● Cotton Bud</li> <li>● Hypafix or Electrofix Dressing</li> <li>● Positive Airway Pressure Mask</li> </ul>

<b>Monitoring of PSG and Titration parameter</b>	<ul style="list-style-type: none"> <li>● Monitor pressure and adjust pressure due to AASM guideline during procedure Etc :             <ul style="list-style-type: none"> <li>➢ Monitor patient pressure for ≥ 30 min without breathing events and control of breathing events ≥ 15 min in supine REM Sleep</li> <li>➢ Stop if re-emergence of breathing events need to decrease ≥ 1cm of H<sub>2</sub>O and monitor in ≥ 10 min, continue procedure until ≥ 30 min without breathing events and control of breathing events ≥ 15 min in supine REM Sleep</li> <li>➢ If breathing events reach 15cm of H<sub>2</sub>O change to BiPAP pressure</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>● Electroencephalography electrode</li> <li>● Electrocardiography electrode</li> <li>● Electrooculogram electrode</li> <li>● Electromyography electrode</li> <li>● Periodic Leg Movements electrode</li> <li>● SpO<sub>2</sub> Probe</li> <li>● Flash Card</li> <li>● Card Reader</li> <li>● Abdominal and Thorax Belt</li> <li>● Sleep Analyzer Polysomnography with Computer System and Data Acquisition Software</li> <li>● VPAP Tx Titration Therapy Device</li> </ul>
<b>Unhook Patient</b>	<ul style="list-style-type: none"> <li>● Remove all the electrodes</li> <li>● Clean all electrodes</li> </ul>		<ul style="list-style-type: none"> <li>● Hot water</li> <li>● Non-based Alcohol Disinfectant Wipe</li> </ul>
<b>Documentation</b>	<ul style="list-style-type: none"> <li>● Record any abnormal behavior</li> <li>● Document the level of PAP therapy outcome grading:             <ol style="list-style-type: none"> <li>a) Optimal</li> <li>b) Good</li> <li>c) Adequate</li> <li>d) Unacceptable</li> </ol> </li> </ul>		
<b>References</b>	<ol style="list-style-type: none"> <li>1. American Academy of Sleep Medicine Guideline (AASM), <a href="https://aasm.org/clinical-resources/practice-standards/practice-guidelines/">https://aasm.org/clinical-resources/practice-standards/practice-guidelines/</a></li> <li>2. Otorhinolaryngology Sleep service Guidelines, Published in 2021, MOH/P/PAK/458.21(GU)</li> <li>3. Clinical Practice Guidelines, Published in 2023, MOH/P/PAK/503.22(GU)-e</li> <li>4. Positive Airway Pressure Titration Task Force of the American Academy of Sleep Medicine (2008). Clinical guidelines for the manual titration of positive airway pressure in patients with obstructive sleep apnea. Journal of Clinical Sleep Medicine, 4(2), 157-171.</li> <li>5. Berry RB, Quan SF, Abreu AR, et al. for the American Academy of Sleep Medicine (2020). The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications. Version 2.6. Darien IL: American Academy of Sleep Medicine.</li> </ol>		

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