MINISTRY OF HEALTH MALAYSIA

TUGAS DAN TANGGUNGJAWAB PENOLONG PEGAWAI PERUBATAN

ROLES AND RESPONSIBILITIES OF ASSISTANT MEDICAL OFFICER

STANDARD PRACTICE GUIDELINES

CAWANGAN PERKHIDMATAN PENOLONG PEGAWAI PERUBATAN

KEMENTERIAN KESIHATAN MALAYSIA

TUGAS DAN TANGGUNGJAWAB PENOLONG PEGAWAI PERUBATAN

CAWANGAN PERKHIDMATAN
PENOLONG PEGAWAI PERUBATAN

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Prakata
KETUA PENGARAH KESIHATAN MALAYSIA

Assalamualaikum Warahmatullahi Wabarakatuh dan Selamat Sejahtera,

Terlebih dahulu, saya ingin merakamkan setinggi-tinggi penghargaan kepada semua pihak yang terlibat dalam penerbitan Buku Tugas dan Tanggungjawab Penolong Pegawai Perubatan ini. Buku ini merupakan satu langkah penting dalam usaha menambahbaik peranan dan tanggungjawab Penolong Pegawai Perubatan (PPP) di Malaysia, sesuai dengan perkembangan dan keperluan semasa dalam sektor kesihatan.

PPP adalah petugas barisan hadapan yang memainkan peranan penting dalam memberikan perkhidmatan kesihatan kepada masyarakat sama ada dalam situasi kecemasan, penjagaan pesakit di hospital, mahupun klinik kesihatan, peranan PPP amat besar dan tidak dapat dinafikan. Justeru, penerbitan buku ini akan menjadi panduan yang jelas tentang tugas dan tanggungjawab PPP di dalam sistem penyampaian perkhidmatan kesihatan Malaysia.

Saya percaya, dengan penerbitan buku ini, ia juga secara tidak langsung, akan menyumbang kepada penghasilan standard perkhidmatan yang lebih baik melalui kualiti penjagaan kesihatan yang disampaikan. Selain itu, ia juga diharap dapat menjadi sinergi kepada profesion PPP bagi mengekalkan tahap profesionalisme masing-masing. Menjadi harapan saya juga penerbitan buku ini boleh diterjemahkan sebagai titik permulaan kepada lain-lain inisiatif yang bakal dibangunkan, khususnya dalam meningkatkan kemahiran dan kompetensi PPP di dalam menghadapi cabaran dan perkembangan teknologi perubatan masa kini.

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DATUK DR MUHAMMAD RADZI ABU HASSAN

ZULHELMI BIN ABDULLAH

Prakata

KETUA PENOLONG PEGAWAI PERUBATAN MALAYSIA

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Penerbitan buku ini akan menjadi rujukan yang penting dan menjadi asas bagi PPP untuk melaksanakan tugas dan tanggungjawab mereka dengan berkesan.Sebagai Ketua Penolong Pegawai Perubatan Malaysia, saya berharap buku ini akan memberi manfaat bukan sahaja kepada PPP tetapi ia juga dapat dijadikan rujukan bagi ketua-ketua jabatan di dalam merangka dan membangunkan skop tugas baharu bagi PPP.

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“Profesion Diperkasa, Rakyat Sejahtera”

Sekian, terima kasih.

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Romina anak Bongsam
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Yap Yah Yun

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Sitti Mawar Daratulain binti Mohd Yusof
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Safiq bin Muhammad Firdaus
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Razieeyllah bin Ramli
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Nordin bin Kamis
Zulkefli bin Baba
Fazil bin Awang

PERKHIDMATAN OBSTETRIK & GINEKOLOGI

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PERKHIDMATAN OFTALMOLOGI

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Noorhaslan bin Mohamad

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Mohamad Faiizul bin Minan
Warazrai bin Abdul Wahab

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Che Mohamad Amran bin Che Omar
Zaman bin Mohamad

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Mohd Azman bin Sabar
Mohd Taufik bin Aziz
Rohazien bin Arifin

PERKHIDMATAN KARDIOTORASIK ANESTESIOLOGI DAN PERFUSI

Hermi bin Safian
Eairin bin Hussin
Azli bin Ahmad

PERKHIDMATAN PEMBEDAHAN PLASTIK DAN REKONSTRUKTIF

Mohamad Sairul Hizam bin Muhamad Nazri
Mezehar bin Rasem @ Rasim

PERKHIDMATAN TANGAN DAN MIKROSURGERI

Anwar bin Abdul Razak
Muhammad Fikri bin Hashim

PERKHIDMATAN NEUROSURGERI

Mohd Fariz bin Mohd Zaini
Erizam bin Saidin

PERKHIDMATAN UROLOGI

Wan Ahmad Husaini bin Wan Mohd Hanafi @ Hanafi
Ruzizan bin Mohamed Yacob
Khairul Idham bin Awang
Mohd Hazzan Asri bin Amran
Ahmad Safri Mujaddid bin Yakub

PERKHIDMATAN PEMBEDAHAN VASKULAR

Shaifulbahri bin Muhammad
Mohd Fakrullah bin Ab Rahman

Glosari

Mengendalikan Peralatan Perubatan:
Berupaya menguasai, mengurus dan memasang komponen asas peralatan termasuk *user troubleshoot*, penjagaan dan penyelenggaraan peralatan perubatan.

First / second assistant:
Bertindak selaku pembantu kepada Pegawai Perubatan / Pakar didalam sesuatu prosedur sama ada sebagai pembantu utama (*First Assistant*) atau pembantu kedua (*Second Assistant*).

Middle Level Care Practitioner:
Penyedia perkhidmatan rawatan pesakit, menjalankan ujian diagnostik, rehabilitasi dan khidmat nasihat kesihatan yang terhad berbanding skop dan kompleksiti tugas Pegawai Perubatan.

Tadbir urus klinikal:
Pendekatan sistematik di dalam mengekal dan menambahbaik kualiti penjagaan pesakit dalam sistem kesihatan

Inter/Intra Fasiliti:
Pergerakan pesakit dari satu kemudahan ke kemudahan penjagaan kesihatan yang lain (Inter). Pergerakan pesakit dalam satu kemudahan penjagaan kesihatan yang sama (Intra). Ini boleh dilakukan melalui pengangkutan udara, air atau darat.

Smart partnership:
Kerjasama strategik antara dua atau lebih pihak yang menggabungkan sumber, kepakaran, dan inovasi untuk mencapai matlamat bersama.

Dekontaminasi:
Proses menghilangkan atau mengurangkan pencemaran bahan berbahaya, seperti kuman, virus, bahan kimia, atau radiasi, dari permukaan atau objek

Advokasi:
Usaha untuk menyokong, membela, atau memelihara hak, kepentingan, atau isu tertentu bagi individu, kelompok, atau komuniti. Ia bertujuan untuk mempengaruhi keputusan dan tindakan dalam bidang seperti dasar, perundangan, dan masyarakat.

Asertif:
Sikap atau tingkah laku yang menunjukkan keyakinan dan kebolehan untuk menyatakan pendapat, keperluan, atau hak seseorang dengan cara yang tegas tetapi tetap menghormati orang lain.

Intervensi:
Tindakan yang diambil untuk menangani masalah kesihatan, seperti rawatan perubatan, terapi psikologi, atau program pemulihan.

Invasif:
Prosedur yang melibatkan lapisan dalam kulit samada melalui hirisan,suntikan, tembakan laser,sebarang perbuatan menembusi kulit (walaupun tiada luka luaran), atau memasukkan sesuatu kedalam badan.

Bukan Invasif:
Prosedur luaran tanpa melalui hirisan, suntikan, tembakan laser,sebarang perbuatan menembusi kulit (walaupun tiada luka luaran), atau memasukkan sesuatu kedalam badan.

Kalibrasi:
Proses penyelarasan atau pengesahan ketepatan alat atau instrumen pengukuran.

Diagnostik:
Proses mengenal pasti atau menentukan penyakit, keadaan, atau masalah melalui pemeriksaan, ujian, dan analisis.

Hemodinamik:
Aliran darah dan tekanan dalam sistem kardiovaskular meliputi tekanan darah, isi padu sistolik dan ketahanan vaskular.

PENGENALAN PROFESION PENOLONG PEGAWAI PERUBATAN

Penolong Pegawai Perubatan merupakan satu profesion yang penting dalam sistem penyampaian perkhidmatan perubatan dan kesihatan kepada rakyat Malaysia. Sejarah awal profesion ini dikenali sebagai *Apotekari* bermula pada tahun 1786. Pada 16 September 1889, satu memorandum oleh Gabenor Negeri-negeri Selat telah menukarkan nama jawatan Apotekari ini kepada *Sub Assistant Surgeon* atau lebih sinonim dengan panggilan *Dresser*. Fasa perubahan terus berlaku dengan nama *Dresser* sekali lagi ditukarkan kepada Pembantu Rumah Sakit (*Hospital Assistant*) pada tahun 1936. Sejarah pasca kemerdekaan, nama Pembantu Rumah Sakit ini sekali lagi ditukar kepada Pembantu Perubatan (*Medical Assistant*) iaitu pada tahun 1985. Kini, setelah menjalani beberapa perubahan seiring dengan peredaran zaman, nama profesion Pembantu Perubatan telah ditukar kepada Penolong Pegawai Perubatan pada tahun 2007 dan kekal hingga ke hari ini. Penolong Pegawai Perubatan berperanan penting dalam penyampaian perkhidmatan perawatan kesihatan dan perubatan kepada masyarakat berdasarkan lima teras tugas utama seperti berikut:

1. Merawat pesakit dalam skop yang ditetapkan.
2. Melakukan ujian dan saringan bagi tujuan diagnostik.
3. Mengendalikan peralatan perubatan untuk tujuan perawatan.
4. Mengendalikan program-program saringan di Kesihatan awam.
5. Mengendalikan perkhidmatan Pra-Hospital.

Penolong Pegawai Perubatan didaftarkan di bawah Akta 180, Akta Pembantu Perubatan (Pendaftaran) 1977 dan diselia oleh Cawangan Perkhidmatan Penolong Pegawai Perubatan (CPPPP), Bahagian Amalan Perubatan, Kementerian Kesihatan Malaysia. Pada awal 80an, pelatih yang berjaya menamatkan latihan dianugerahkan Sijil Pembantu Hospital, kemudiannya Sijil Pembantu Perubatan. Bermula 1998, sijil ini telah dinaiktaraf kepada Diploma Pembantu Perubatan .Selari dengan perancangan perkembangan profesion, silibus dan kaedah pembelajaran telah dikaji semula dan ditambahbaik bagi menghasilkan Diploma Sains Perubatan dan Kesihatan(DMHS) bagi perigkat diploma manakala Ijazah Sarjana Muda Sains Perubatan dan Kesihatan (BMHS) bagi peringkat ijazah pertama.

Ketika ini, Penolong Pegawai Perubatan bukan sahaja berkhidmat di Kementerian Kesihatan Malaysia tetapi juga di lain-lain agensi dan kementerian. Perkhidmatan ini dilaksanakan secara pinjaman perjawatan kader di Kementerian Pertahanan dan berkhidmat di Hospital Angkatan Tentera, Jabatan Penjara, Kementerian Pendidikan di Politeknik dan Universiti, Jabatan Kebajikan Masyarakat dan Pusat Pemulihan Penagihan Narkotik (PUSPEN). Selain pinjaman kader, terdapat juga Penolong Pegawai Perubatan yang berkhidmat sebagai anggota beruniform di Angkatan Tentera Malaysia, Angkatan Pertahanan Awam Malaysia serta Jabatan Bomba dan Penyelamat Malaysia.

Di sektor swasta pula, khidmat Penolong Pegawai Perubatan tidak terhad kepada pengoperasian hospital dan klinik swasta sahaja, malah khidmatnya turut berkembang di sektor perladangan, perkapalan dan perindustrian lain termasuk industri minyak dan gas. Penolong Pegawai Perubatan yang berkhidmat di sektor-sektor ini kebanyakannya mempunyai kelayakan sebagai Pegawai Keselamatan dan Kesihatan Pekerjaan.

PERANAN PENOLONG PEGAWAI PERUBATAN

Penolong Pegawai Perubatan bertanggungjawab dalam menyampaikan perkhidmatan kesihatan sebagai *Middle Level Care Practitioner* di Kementerian Kesihatan Malaysia. Secara umumnya, Penolong Pegawai Perubatan berperanan dan bertanggungjawab di dalam memberikan perkhidmatan kesihatan di Malaysia dalam bidang promotif, preventif, kuratif, rehabilitatif dan paliatif.

Penolong Pegawai Perubatan di Program Kesihatan Awam berperanan dalam menyampaikan perkhidmatan merangkumi empat bidang iaitu Kesihatan Primer, Kesihatan Keluarga, Kesihatan Penyakit Berjangkit dan Kesihatan Penyakit Tidak Berjangkit. Manakala di Program Perubatan atau perkhidmatan sekunder, PPP berperanan menyampaikan perkhidmatan dalam tugas-tugas klinikal dan tadbir urus klinikal merangkumi perkhidmatan rawatan pra hospital, rawatan kes-kes kecemasan, kes-kes rujukan ke pelbagai perkhidmatan kepakaran dan sub-kepakaran tertentu serta perubatan forensik. Selain melaksanakan tugas-tugas klinikal, PPP juga melaksanakan tadbir urus klinikal (*Clinical Governance*) selari dengan aktiviti di peringkat Kementerian Kesihatan Malaysia yang merangkumi enam (6) program teras iaitu Program Keberkesanan dan Audit Klinikal, Program Penglibatan Pesakit/ Pengguna Perkhidmatan dan Orang Awam / Komuniti, Program Pengurusan Risiko dan Keselamatan Pesakit, Program Pengurusan Perjawatan dan Kakitangan, Program Penambahbaikan Perkhidmatan dan Program Pembelajaran dan Perkongsian Maklumat.

A. PROGRAM KESIHATAN AWAM

PENGENALAN PROGRAM KESIHATAN AWAM

Penolong Pegawai Perubatan (PPP) memainkan peranan sebagai *middle level care practitioner* merangkumi aspek promosi kesihatan (*promotive*), pengesanan faktor risiko dan pencegahannya (*preventive*), rawatan (*curative*), pemulihan (*rehabilitative*) dan paliatif (*palliative*) mengikut keperluan umur ke arah taraf kesihatan yang baik, mengelakkan dari berlaku dan merebaknya penyakit serta menggalakkan proses perubahan sikap dan gaya hidup positif.[1]

PPP bertanggungjawab dalam aktiviti kawalan dan pencegahan penyakit berjangkit termasuk penyakit baru muncul, wabak penyakit, penyakit tidak berjangkit serta bencana dan lain-lain kejadian yang boleh mengancam kesihatan awam.[1]

PPP memainkan peranan penting dalam penyampaian penjagaan kesihatan primer yang meliputi lima komponen iaitu kesejahteraan kesihatan (*wellness*), rawatan penyakit (*illness*), kecemasan (*emergency*), sokongan klinikal (*clinical support*) serta pengurusan maklumat kesihatan dan klinikal (*clinical governance*). Perkhidmatan yang diberi adalah komprehensif meliputi semua peringkat umur mulai daripada lahir hingga ke akhir hayat (*from womb to tomb*) melalui pelbagai fasiliti kesihatan awam. Ia meliputi golongan masyarakat termasuklah anggota kesihatan yang dipantau status kesihatan melalui program-program kesejahteraan dan rawatan pesakit bagi memastikan penjagaan kesihatan yang berterusan.[1]

PPP memberikan perkhidmatan kesihatan di fasiliti-fasilti Kementerian Kesihatan Malaysia (KKM) serta institusi dan agensi luar daripada pentadbiran KKM.[1]

SKOP TUGAS DAN TANGGUNGJAWAB DI KESIHATAN AWAM

Penolong Pegawai Perubatan bertanggungjawab dalam memberikan perkhidmatan kesihatan dalam skop yang ditetapkan kepada semua golongan masyarakat. Tugas-tugas yang dilaksanakan meliputi promosi kesihatan, saringan status kesihatan, intervensi, rawatan dan pemulihan kepada pesakit secara optimum kepada individu, berkumpulan atau kelompok masyarakat dalam aspek penjagaan kesihatan fizikal, mental dan sosial melalui perkhidmatan:[1]

i. Kesihatan Primer
ii. Kesihatan Keluarga
iii. Kawalan Penyakit Berjangkit dan Penyakit Tidak Berjangkit

Penolong Pegawai Perubatan di Kesihatan Awam bertanggungjawab dan berperanan:

1. Melaksana intervensi kepada golongan yang mempunyai faktor risiko dan masalah kesihatan sama ada secara farmakologi atau bukan farmakologi.6 Kes yang memerlukan rawatan lanjut akan dirujuk kepada Pegawai Perubatan atau profesional kesihatan yang berkenaan.[2,3,4]
2. Memberikan rawatan bagi kes-kes akut dan kronik serta kes-kes yang memerlukan rawatan susulan. Kes-kes yang kompleks dan kes-kes cicir rawatan akan dirujuk kepada Pegawai Perubatan atau Profesional Kesihatan untuk kesinambungan rawatan pesakit. [2,3,4]
3. Memberi rawatan serta melaksana prosedur diagnostik dan prosedur klinikal mengikut skop yang telah ditetapkan.[1]
4. Melatih golongan masyarakat yang terlibat secara langsung dalam penjagaan kesihatan ahli keluarga dan masyarakat untuk mendapatkan penjagaan rapi dan holistik.[8]
5. Menyelaras program kesihatan serta aktiviti-aktiviti yang melibatkan masyarakat, Badan Bukan Kerajaan (NGO).[1]
6. Membuat rujukan awal kes-kes penyakit berjangkit kepada Pegawai Perubatan supaya tindakan kawalan dan pencegahan dapat diambil dengan segera oleh pihak berkenaan.[2,3,4]
7. Memastikan kesiapsiagaan fasiliti, melakukan saringan gejala, mobilisasi pesakit, memantau proses dekontaminasi dan sebagainya di pusat-pusat saringan dan vaksinasi bagi program saringan serta kawalan penyakit berjangkit.[18]
8. Terlibat dalam aktiviti kesedaran dan advokasi mengenai pencegahan penderaan dan keganasan rumah tangga serta perkhidmatan *One Stop Crisis Centre* (OSCC) dan *Suspected Child Abuse and Neglect* (SCAN).[1]
9. Memberikan dan mengendali perkhidmatan kecemasan merangkumi rawatan kecemasan dan trauma, Perkhidmatan Rawatan Pra-Hospital dan Ambulans serta pengurusan bencana di dalam kawasan operasi klinik.[5]
10. Melaksanakan tugas atas panggilan selepas waktu operasi klinik dan perkhidmatan liputan pasukan perlindungan perubatan.[5,7]
11. Memberikan dan mengendali perkhidmatan klinik bergerak yang disampaikan melalui darat, air dan udara kepada masyarakat khususnya di kawasan pedalaman.[13]
12. Berkolaborasi dengan kumpulan masyarakat secara *smart partnership* termasuk swasta, NGO dan Badan Berkanun bagi menggalakkan penyertaan mereka dalam penjagaan kesihatan.[1]

Sumber rujukan:

[1]Bahagian Pembangunan Kesihatan Keluarga. (2021). *Senarai Tugas Dan Tanggungjawab Penolong Pegawai Perubatan Program Kesihatan Awam (Peringkat Klinik Kesihatan)*. Kementerian Kesihatan Malaysia.
[2]Family Health Development Division. (2001). *Standard Operating Procedures For Medical Assistants in Primary Health Care Part 1*. Ministry of Health Malaysia.
[3]Family Health Development Division. (2003). *Standard Operating Procedures For Medical Assistants in Primary Health Care Part 2*. Ministry of Health Malaysia.
[4]Family Health Development Division. (2009). *Standard Operating Procedures For Medical Assistants in Primary Health Care Part 3*. Ministry of Health Malaysia.
[5]Bahagian Pembangunan Kesihatan Keluarga. (2015). *Garis Panduan Perkhidmatan Kecemasan Dan Ambulans Di Fasiliti Kesihatan Primer*. Kementerian Kesihatan Malaysia.
[6]Government of Malaysia. (1952). *Poison Act 1952*.
[7]Bahagian Pembangunan Kesihatan Keluarga. (2015). *Polisi Operasi Klinik Kesihatan*. Kementerian Kesihatan Malaysia.
[8]Bahagian Pembangunan Kesihatan Keluarga. (2020). *Garis Panduan Perkhidmatan Perawatan Domisiliari Di Kesihatan Primer (Edisi 2)*. Kementerian Kesihatan Malaysia.
[9]Bahagian Pembangunan Kesihatan Keluarga. (2015). *Garis Panduan Perkhidmatan Kesihatan Anggota Kesihatan (Paramedik) Di Institusi-Institusi Agensi Luar Kementerian Kesihatan Malaysia*. Kementerian Kesihatan Malaysia.
[10]Bahagian Pembangunan Kesihatan Keluarga. (2015). *Polisi Operasi Klinik Bergerak 1 Malaysia (KB1M)-Bas & Bot*. Kementerian Kesihatan Malaysia.
[11]Bahagian Pembangunan Kesihatan Keluarga. (2022). *Garis Panduan Perkhidmatan Konsultasi Secara Maya di Klinik Kesihatan*. Kementerian Kesihatan Malaysia.
[12]Bahagian Pembangunan Kesihatan Keluarga. (2021). *Garis Panduan Perkhidmatan Kesihatan Di Pusat Rawatan Politeknik*. Kementerian Kesihatan Malaysia.
[13]Bahagian Pembangunan Kesihatan Keluarga. (2014). *Garis Panduan Klinik Bergerak*. Kementerian Kesihatan Malaysia.
[14]Bahagian Pembangunan Kesihatan Keluarga. (2021). *Garis Panduan Perkhidmatan Kesihatan di Klinik Sekolah Sukan Malaysia*. Kementerian Kesihatan Malaysia.
[15]Bahagian Pembangunan Kesihatan Keluarga. (2018). *Garis Panduan Pelaksanaan Tahap Kesakitan Sebagai Tanda Vital Kelima & Pengurusan Kesakitan Di Klinik Kesihatan*. Kementerian Kesihatan Malaysia.
[16]Bahagian Pembangunan Kesihatan Keluarga. (2019). *Garis Panduan Perkhidmatan Penjagaan Luka Di Fasiliti Kesihatan Primer*. Kementerian Kesihatan Malaysia.
[17]Bahagian Pembangunan Kesihatan Keluarga. (2022). *Garis Panduan Khidmat Berhenti Merokok Di Klinik Kesihatan (Edisi 2)*. Kementerian Kesihatan Malaysia.
[18]Bahagian Pembangunan Kesihatan Keluarga. (2019). *Garis Panduan Kawalan Infeksi Di Fasiliti Kesihatan Primer*. Kementerian Kesihatan Malaysia.

B. PROGRAM PERUBATAN

1. PERKHIDMATAN KECEMASAN PERUBATAN DAN TRAUMA

Penolong Pegawai Perubatan di dalam Perkhidmatan Kecemasan Perubatan dan Trauma bertanggungjawab dan berperanan:

1.1. ZON SARINGAN / TRIAGE

1.1.1. Triage Primer

Melaksanakan saringan awal untuk menentukan tahap keterukan dan tahap jangkitan penyakit serta bertanggung jawab memberi intervensi awal dengan sewajarnya dan menetapkan pesakit di zon rawatan yang sesuai.[1, 2]

1.1.2. Triage Sekunder

Melaksanakan penilaian semula tahap keterukan, tahap jangkitan berdasarkan sejarah pesakit, tanda-tanda vital yang lengkap, memberi intervensi awal dengan sewajarnya seterusnya menghantar/menetapkan pesakit di zon rawatan yang sesuai.[1, 2]

1.2. ZON PERAWATAN ASMA

Melaksanakan pemeriksaan dan menilai tahap keterukan pesakit asma seterusnya memberi rawatan awal serta membuat penilaian semula selepas rawatan diberikan. Penilaian dan pemantauan berterusan kepada pesakit dilakukan bagi menentukan keperluan meneruskan rawatan atau merujuk kepada Pegawai Perubatan untuk pengurusan selanjutnya.[1,2]

1.3. ZON TIDAK KRITIKAL

Melaksanakan penilaian / pemeriksaan semula ke atas pesakit tidak kritikal bagi mengesan tanda dan gejala. Seterusnya melaksanakan pemeriksaan fizikal termasuk tanda-tanda vital, ujian diagnostik, pengambilan spesimen, penyediaan dan pemberian ubatan serta rawatan / intervensi yang bersesuaian.

PPP juga melaksanakan *Surveilans Triage* di ruang menunggu supaya pemantauan kepada pesakit dapat dilakukan secara berterusan.[1,2]

1.4. ZON SEPARA KRITIKAL

Melaksanakan penilaian/ pemeriksaan semula ke atas pesakit separa kritikal bagi mengesan tanda dan gejala. Seterusnya melaksanakan pemeriksaan fizikal termasuk tanda-tanda vital, ujian diagnostik, pengambilan spesimen, penyediaan dan pemberian ubatan serta rawatan / intervensi yang bersesuaian.[1,2]

1.5. ZON KRITIKAL

Melaksanakan resusitasi, intervensi awal dan menstabilkan keadaan pesakit kritikal, seterusnya melaksanakan pemeriksaan fizikal termasuk tanda-tanda vital, ujian diagnostik, pengambilan spesimen, penyediaan dan pemberian ubatan serta rawatan / intervensi yang bersesuaian dan pengendalian peralatan khusus (invasif / bukan invasif).[1, 2]

1.6. ZON DEKONTAMINASI DAN ISOLASI

Melaksanakan '*dry or wet decontamination*' berdasarkan kepada keadaan pesakit dengan pemakaian '*Personal Protective Equipment'* (PPE) yang bersesuaian. Seterusnya melaksanakan pemeriksaan dan memberi rawatan awal yang sewajarnya.[1, 2]

1.7. PUSAT KRISIS BERSEPADU ATAU ONE STOP CRISIS CENTRE (OSCC)

Terlibat secara langsung dalam pengurusan kes-kes OSCC seperti kes cabul, rogol, sodomi, penderaan dan keganasan rumah tangga serta mengendalikan spesimen kes OSCC mengikut garis panduan yang ditetapkan.[3]

1.8. BILIK PROSEDUR

Bertanggungjawab dalam proses kerja sebelum, semasa dan selepas prosedur termasuk pemberian pendidikan kesihatan kepada pesakit. Prosedur-prosedur yang dilaksanakan seperti *Toilet and Suturing, Incision and Drainage*, *dressing*, *Catheter Bladder Drainage* (CBD), *Foreign Body Removal*, *Eye Irrigation* dan lain-lain.[1, 2]

1.9. *POINT OF CARE TESTING* (POCT)

Melaksanakan ujian diagnostik perubatan, interpretasi dan analisis awal keputusan ujian sebelum merujuk kepada Pegawai Perubatan untuk tindakan lanjut, serta memastikan peralatan dan mesin diagnostik sentiasa berada dalam keadaan sedia digunakan.[4]

1.10. WAD PEMERHATIAN

Melaksanakan prosedur-prosedur khas klinikal dan membuat pemantauan atas Laporan Kejururawatan pesakit yang disediakan oleh Jururawat di Wad Pemerhatian.[1]

1.11. UNIT HEMODINAMIK DAN RESPIRATORI

Mengendalikan peralatan bantuan pernafasan dan peralatan perubatan yang berkaitan serta menetapkan parameter mengikut piawaian keperluan semasa.[5]

1.12. PERKHIDMATAN RAWATAN PRA-HOSPITAL & AMBULANS (PRPA)

1.12.1. Perkhidmatan Pengurusan Panggilan Kecemasan 999

a Mengendalikan panggilan kecemasan melalui sistem sedia ada atau melalui talian terus dan menilai tahap keutamaan panggilan tersebut.[6,7]

b Memberikan arahan pra-tiba *Dispatch Life Support* (DLS) kepada pemanggil bagi memastikan pesakit mendapat bantuan awal sebelum pasukan respon ambulans tiba.[7]

c Mengurus dan mengaktifkan pasukan responder ambulans dengan menggunakan sistem *Geographical Information System* (GIS).

1.12.2. Perkhidmatan Ambulans Kecemasan

a Bersiap siaga bagi menerima tugasan dan bertindak sebagai ketua pasukan responder ambulans kecemasan.[6]

b Melaksanakan pemeriksaan ambulans dan pengendalian ke atas peralatan yang berkaitan supaya berfungsi dengan baik dan siap sedia digunakan serta melaporkan kerosakan kepada pegawai atasan.

c Melaksanakan penilaian dan perawatan awal, membuat intervensi klinikal, melakukan pemantauan secara berterusan, mendokumentasikan penemuan seterusnya berkomunikasi dengan Pusat Panggilan Perubatan Kecemasan.[7]

1.12.3. Perkhidmatan Ambulans Interfasiliti dan Intrafasiliti

a Menguruskan permohonan ambulans mengikut keperluan dan menyediakan ambulans yang bersesuaian.[7,8]

b Melaksanakan penilaian, intervensi klinikal, pemantauan secara berterusan keatas pesakit, mendokumentasikan penemuan dan melaporkan kepada Pusat Panggilan Perubatan Kecemasan sekiranya perlu.[7,8]

c Pengendalin ke atas peralatan yang berkaitan supaya berfungsi dengan baik dan siap sedia digunakan.

1.12.4. Perkhidmatan *Critically Ill Patient Escort & Retrieval*

a Melaksanakan penilaian, perawatan awal, resusitasi serta pemantauan ke atas pesakit sebelum, semasa dan selepas pemindahan pesakit.

b Mendokumentasi dan melaporkan keadaan semasa pesakit kepada Pusat Panggilan Perubatan Kecemasan.[7,8]

1.12.5. Perkhidmatan Pasukan Perlindungan Perubatan

a Menguruskan permohonan, memastikan aktiviti lawatan tapak dan melaksanakan analisis risiko.[10]

b Menyediakan pasukan dan peralatan yang lengkap berdasarkan hasil penilaian risiko.

c Melakukan penilaian dan perawatan awal ke atas individu yang dilindungi serta mendokumentasi penemuan klinikal dan melaporkan kepada Pusat Panggilan Perubatan Kecemasan.

d Menyediakan laporan setiap aktiviti perlindungan perubatan.

1.12.6. Perkhidmatan Pengurusan Kejadian Bencana dan *Mass Casualty Incident*

a Sebagai pasukan peninjau dan pasukan sokongan di lokasi kawasan kejadian bencana / insiden mengikut garis panduan yang ditetapkan.

b Sebagai *Triage Officer*, *Communication Officer*, *Medical Search and Rescue Officer* dan *Liaison Officer*. Penolong Pegawai Perubatan juga akan melakukan tugasan di *Casualty Collecting Area*, dan Zon Klinikal Bencana serta melakukan tugasan klinikal berkaitan perawatan pesakit.

c Merekod aset, mangsa dan sumber manusia atau sebarang maklumat penting di dalam operasi bencana / insiden serta bertindak menjaga keselamatan pesakit, pasukan dan aset yang digunakan semasa operasi bencana.[9]

Sumber rujukan:

[1]Medical Development Division. (2012). *Emergency Medicine and Trauma Services Policy*. Ministry of Health Malaysia.

[2]Assistant Medical Officer Service Section, Medical Practice Division. (2023). *Standard Practice Guidelines for Assistant Medical Officer in Emergency Medicine and Trauma Services*. Ministry of Health Malaysia.

[3]Medical Development Division. (2015). *One Stop Crisis Center: Policy and Guidelines for Hospitals*. Ministry of Health Malaysia.

[4]Medical Development Division. (2012). *National Point of Care Testing (POCT) Policy and Guidelines*. Ministry of Health Malaysia.

[5]Assistant Medical Officers Services, Section Medical Practice Division. (2022). *Standard Practice Guidelines Assistant Medical Officers in Anaesthesia & Intensive Care Services: Anaesthetic Assistant & Technologists (AAT) Intensive Care Technologists (ICT)*. Ministry of Health Malaysia.

[6]Jabatan Kesihatan Negeri Selangor. (2018). *Garis Panduan Dan Polisi Perkhidmatan Rawatan Pra Hospital Dan Ambulans (Edisi 2)*.

[7]Kementerian Kesihatan Malaysia. (2013). *Surat Pekeliling Ketua Pengarah Kesihatan Bil:10/2013 Garis Panduan Penubuhan Unit Perkhidmatan Pra Hospital Di Jabatan Kecemasan Dan Trauma Hospital-hospital Kementerian Kesihatan Malaysia*.

[8]Bahagian Perkembangan Perubatan. (2009). *Pekeliling Ketua Pengarah kesihatan Bil: 2/2009 Garispanduan Rujukan Dan Perpindahan Pesakit Di Antara Hospital-Hospital Kementerian Kesihatan.*

[9]Bahagian Kawalan Penyakit. (2015). *Pelan Pengurusan Krisis dan Bencana Peringkat Kementerian Kesihatan Malaysia.*

[10]Kementerian Kesihatan Malaysia. (2007). *Pekeliling Ketua Pengarah Kesihatan Malaysia Bil: 2/2007 Liputan Pasukan Perlindungan Perubatan dan Kesihatan Kementerian Kesihatan Malaysia.*

2. PERKHIDMATAN PERUBATAN FORENSIK

Penolong Pegawai Perubatan di dalam Perkhidmatan Perubatan Forensik bertanggungjawab dan berperanan:

2.1. Merekod dan melaksanakan proses penerimaan, penyimpanan, pengecaman serta penyerahan mayat dan anggota badan kepada waris atau pihak yang diberi kuasa.[1]

2.2. Menjalankan pemeriksaan berkala dan merekod suhu peti sejuk mayat untuk memastikan ia sentiasa berfungsi dengan baik dan sentiasa dalam keadaan bersedia.[1]

2.3. Membantu Pegawai Perubatan / Pakar dalam prosedur *Postmortem, Clinical Forensic Examination, Crime Scene Investigation, Anthropology, Exhumation, Organ Harvesting* dan *Disaster Victim Identification*.[1]

2.4. Mengendalikan peralatan dan bilik pemeriksaan mengikut garis panduan yang ditetapkan.[1]

2.5. Mengendalikan semua proses penyediaan, pengambilan, perekodan, dan penyimpanan *Forensic Photography* dengan selamat mengikut garis panduan yang ditetapkan .[1]

2.6. Mengendalikan spesimen mengikut kaedah *Chain of Custody* semasa prosedur *Specimen Medicolegal Handling*.[1]

Sumber rujukan:

[1]Medical Development Division. (2012). *Standard Operating Procedures of Forensic Medicine Services*. Ministry of Health Malaysia.

3. PERKHIDMATAN ANESTESIA DAN RAWATAN KRITIKAL

Penolong Pegawai Perubatan di dalam Perkhidmatan Anestesia dan Rawatan Kritikal bertanggungjawab dan berperanan:

3.1. Anestesia

3.1.1. Melaksanakan atau membantu prosedur pemberian anestesia di dalam dan di luar Dewan Bedah untuk kes pembedahan dan diagnostik mengikut tatacara dan garis panduan semasa.[1,3 5]

3.1.2. Menyediakan pesakit, peralatan dan ubat-ubatan anestesia sebelum, semasa dan selepas prosedur pembiusan am, setempat dan prosedur khas.[1,3]

3.1.3. Mengendalikan Klinik Anestesiologi dengan melakukan penyaringan pesakit yang akan menjalani pembedahan elektif dan memberikan janji temu mengikut keperluan.[1]

3.1.4. Membantu Pegawai Perubatan / Pakar dengan penyediaan pesakit dan peralatan sebelum, semasa dan selepas prosedur bagi pesakit kesakitan kronik di Klinik Kesakitan Kronik dan Dewan Bedah.

3.1.5. Melaksanakan pemeriksaan, kalibrasi dan pengendalian ke atas peralatan yang berkaitan supaya berfungsi dengan baik dan siap sedia digunakan. [1,3 5]

3.1.6. Melaksanakan aktiviti *cold sterilization* bagi semua peralatan kecil yang tidak dapat disucihamakan.[1,3]

3.1.7. Memastikan pesakit dan peralatan dalam keadaan baik serta selamat sebelum, semasa dan selepas proses pergerakan atau pemindahan intra / inter hospital.[1,4,5]

3.2. Peri Anestesia

3.2.1. Membantu dalam pemberian anestesia di dalam dan luar Dewan Bedah untuk kes pembedahan dan diagnostik mengikut tatacara dan garis panduan semasa.[2,3]

3.2.2. Membantu Pegawai Perubatan / Pakar di dalam penyediaan pesakit, peralatan dan ubat-ubatan sebelum, semasa dan selepas pembiusan am, pembiusan setempat dan prosedur khas.[2,3,5]

3.2.3. Mengendalikan peralatan yang berkaitan supaya berfungsi dengan baik dan siap sedia digunakan.[2,3]

3.2.4. Melaksanakan aktiviti *reprocessing* dan *cold sterilization* bagi peralatan tercemar yang tidak dapat disucihamakan bagi mengelakkan jangkitan silang.[2,3]

3.3. Rawatan Kritikal

3.3.1. Melaksanakan perkhidmatan sokongan ventilator dan prosedur klinikal di Unit Rawatan Kritikal dan wad mengikut tatacara dan garis panduan semasa.[2,3,5]

3.3.2. Melaksanakan penyediaan pesakit, peralatan respiratori dan hemodinamik sebelum, semasa dan selepas bagi prosedur klinikal rutin dan khas.[2,5]

3.3.3. Melaksanakan aktiviti *reprocessing* dan *cold sterilization* bagi peralatan tercemar yang tidak dapat disucihamakan bagi mengelakkan jangkitan silang.[2,3]

3.3.4. Mengendalikan peralatan yang berkaitan supaya berfungsi dengan baik dan siap sedia digunakan.[2,3,5]

3.3.5. Memastikan pesakit dan peralatan dalam keadaan baik serta selamat sebelum, semasa dan selepas proses pergerakan atau pemindahan intra / inter hospital.[2,4,5]

Sumber rujukan:

[1]Assistant Medical Officers Services, Section Medical Practice Division. (2024). *Standard Practice Guidelines Assistant Medical Officers in Anaesthesiology and Intensive Care Services for Sabah and Sarawak-Anaesthesia Technologist (AT)*. Ministry of Health Malaysia.

[2]Assistant Medical Officers Services, Section Medical Practice Division. (2022). *Standard Practice Guidelines Assistant Medical Officers in Anaesthesia & Intensive Care Services: Anaesthetic Assistant & Technologists (AAT) Intensive Care Technologists (ICT)*. Ministry of Health Malaysia.

[3]Medical Care Quality Section, Medical Development Division. (2018). *Policies and Procedures on Infection Prevention and Control (3rd ed)*. Ministry of Health Malaysia.

[4]College of Anaesthesiologists, Academy of Medicine of Malaysia. (2016). *Recommendations of Minimum Standards for Inter-Facility Transport of the Critically Ill Patients*. Ministry of Health Malaysia.

[5]Medical Development Division. (2013). *Anaesthesia & Intensive Care Service Operational Policy (2nd ed)*. Ministry of Health Malaysia.

4. PERKHIDMATAN PERUBATAN NUKLEAR

Penolong Pegawai Perubatan di dalam Perkhidmatan Perubatan Nuklear bertanggungjawab dan berperanan:

4.1. Melaksanakan tugas penyaringan awal rujukan kes baru dan menjadualkan tarikh janji temu klinik mengikut keperluan (*urgent / non-urgent*) seperti yang diarahkan oleh Pegawai Perubatan / Pakar.

4.2. Melaksanakan tugas menyemak borang permohonan rawatan Kanser Tiroid, Hipertiroid, kajian / pengimejan radionuklid dan pengimejan *Positron Emission Tomography-Computed Tomography* (PET-CT) yang lengkap seterusnya memberi tarikh janji temu mengikut keperluan.[3]

4.3. Melaksanakan kaunseling persediaan pesakit hipertiroid dan kanser tiroid sebelum rawatan Radioiodine .[3]

4.4. Melaksanakan ujian saringan kehamilan (*Urine Pregnancy Test*) ke atas pesakit mengikut prosedur yang telah ditetapkan sebelum pengimejan dan pemberian rawatan Radioiodin.[1,2]

4.5. Melaksanakan pemberian ubatan sedatif, agen diuretik, suntikan bahan radioaktif dan suntikan *Intramuscular* (IM) *Thyrogen* kepada pesakit seperti yang diarahkan .[3]

4.6. Melaksanakan ujian *Physical & Pharmacological Stress Test* bersama Pegawai Perubatan/Pakar sebelum pengimejan jantung.[2]

4.7. Melaksanakan pengimejan dengan menggunakan Kamera Gamma, *Single Photon Emission Computed Tomography-Computed Tomography* (SPECT-CT), *Positron Emission Tomography-Computed Tomography* (PET-CT) dan *Cardiac Dedicated*, serta prosedur yang menggunakan *Technegas & Gamma Counter/Well Counter*.[2,3]

4.8. Melaksanakan pemprosesan data dan imej bagi tujuan pelaporan oleh Pegawai Perubatan / Pakar.[2]

4.9. Mengendalikan peralatan perubatan yang berkaitan agar berfungsi dengan baik dan siap sedia digunakan.[2,3]

Sumber rujukan:

[1]Goverment of Malaysia. (1984). *Atomic Energy Licensing Act 1984 (Act304)*.
[2]Medical Assistant Board. (2008). *Standard Operating Procedures for Assistant Medical Officer in Nuclear Medicine*. Ministry of Health Malaysia.
[3]Kementerian Kesihatan Malaysia. (2017). *Pekeliling Keperluan Latihan Untuk Personel Dalam Perkhidmatan Perubatan Nuklear Di Bawah Akta Perlesenan Tenaga Atom 1984 (atau Akta 304)*.

5. PERKHIDMATAN PERUBATAN AM

Penolong Pegawai Perubatan (PPP) dalam Perkhidmatan Perubatan Am bertanggungjawab dan berperanan:

5.1. Melaksanakan saringan kes mengikut keutamaan dan menjadualkan janji temu mengikut tarikh yang diarahkan oleh Pegawai Perubatan / Pakar.

5.2. Mengendalikan peralatan perubatan yang berkaitan agar berfungsi dengan baik dan siap sedia digunakan.[1,2,3,4,5]

5.3. Melaksanakan prosedur perubatan yang tidak kompleks, seperti memberikan suntikan, mengambil sampel cecair tubuh badan, penyediaan dan pemberian ubatan atas arahan Pegawai Perubatan / Pakar.[1,2,3,4,5]

5.4. Menilai keadaan awal pesakit, termasuk mengambil sejarah perubatan, melakukan pemeriksaan fizikal, vital sign dan merekodkan maklumat penting.[1,2,3,4,5]

5.5. Membantu Pegawai Perubatan / Pakar dalam merancang dan melaksanakan pelan rawatan untuk pesakit, serta memastikan penjagaan yang berterusan.[1,2,3,4,5]

5.6. Memberikan maklumat dan pendidikan kepada pesakit dan keluarga mengenai keadaan kesihatan, rawatan, dan pencegahan penyakit.[1,2,3,4,5]

5.7. Merekodkan maklumat perubatan dengan teliti dalam rekod kesihatan pesakit, termasuk kemajuan rawatan dan tindak balas terhadap terapi.[1,2,3,4,5]

5.8. PERKHIDMATAN *OUTPATIENT PARENTERAL ANTIMICROBIAL THERAPY* (OPAT)

5.8.1. Melaksanakan penilaian psikososial serta menjalankan penilaian Intravenous access seperti *Intravenous Cannulation, Scalp Vein Catheterization* dan *Peripheral Venous Catheter* (*Midline Catheter / Peripheral Intravenous Central Catheter*) ke atas pesakit yang telah dirujuk oleh Pegawai Perubatan atau Pakar ke unit OPAT.[3]

5.8.2. Pemberian ubatan intravena *Antimicrobial* secara selamat kepada pesakit mengikut preskripsi oleh Pegawai Perubatan / Pakar.

5.8.3. Memberikan pendidikan kesihatan kepada pesakit dan ahli keluarga tentang penggunaan *Antimicrobial*, tanda-tanda jangkitan yang perlu diawasi, dan penjagaan akses intravena.

5.8.4. Menilai dan mendokumentasi tahap kesihatan pesakit secara rutin, mengesan reaksi alahan, tanda-tanda jangkitan dan kesan sampingan Antimicrobial.

5.8.5. Merujuk pesakit kepada Pegawai Perubatan / Pakar sekiranya tahap kesihatan pesakit tidak stabil.

Sumber Rujukan:

[1]Medical Development Division. (2016). *Gastroenterology Services Operational Policy*. Ministry of Health Malaysia.
[2]Medical Assistants Board. (2020). *Standard Operating Procedure for Assistant Medical Officers in Haemodialysis (2nd ed)*. Ministry of Health Malaysia.
[3]Bahagian Perkembangan Perubatan. (2024). *Garis Panduan Perkhidmatan Outpatient Parenteral Antimicrobial Therapy (OPAT) di Hospital Kementerian Kesihatan Malaysia (1st ed)*. Kementerian Kesihatan Malaysia
[4]Medical Assistants Board. (2006). *Standard Operating Procedures for Medical Assistants in Cardiology*. Ministry of Health Malaysia.
[5]Medical Development Division. (2021). *Clinical Practice Guidelines Management Of Tuberculosis (4th ed)*. Ministry of Health Malaysia.

6. PERKHIDMATAN PERUBATAN RESPIRATORI

Penolong Pegawai Perubatan dalam perkhidmatan Perubatan Respiratori bertanggungjawab dan berperanan:

6.1. Melaksanakan saringan kes mengikut keutamaan dan menjadualkan janji temu mengikut tarikh yang diarahkan oleh Pegawai Perubatan / Pakar.
6.2. Mengendalikan peralatan perubatan yang berkaitan agar berfungsi dengan baik dan siap sedia digunakan.
6.3. Mengendalikan prosedur Ujian Fungsi Paru-Paru (*Lung Function Test*), Permasalahan Tidur Respiratori (*Respiratory Sleep Disorder*), Pengurusan Tibi dan Program *Home Non-Invasive Ventilator* (Home NIV).
6.4. Membantu Pegawai Perubatan / Pakar di dalam prosedur *Thoracic Endoscopy* serta melaksanakan penjagaan pesakit sebelum dan selepas prosedur.
6.5. Menganalisis dan melaporkan keputusan pemeriksaan ujian kepada Pegawai Perubatan / Pakar.
6.6. Memberi kaunseling kepada pesakit-pesakit Tibi dan kontak rapat pesakit serta memberi pendidikan kesihatan kepada mereka.

Sumber rujukan:

[1]Graham, B. L., Steenbruggen, I., Miller, M. R., Barjaktarevic, I. Z., Cooper, B. G., Hall, G. L., Hallstrand, T. S., Kaminsky, D. A., McCarthy, K., McCormack, M. C., Oropez, C. E., Rosenfeld, M., Stanojevic, S., Swanney, M. P., & Thompson, B. R. (2019). *Standardization of Spirometry 2019 Update. An Official American Thoracic Society and European Respiratory Society Technical Statement*. American journal of respiratory and critical care medicine, 200(8), e70–e88. https://doi.org/10.1164/rccm.201908-1590ST

[2]Medical Development Division. (2021). *Clinical Practice Guidelines Management Of Tuberculosis (4th ed)*. Ministry of Health Malaysia.

[3]Du Rand, I. A., Barber, P. V., Goldring, J., Lewis, R. A., Mandal, S., Munavvar, M., Rintoul, R. C., Shah, P. L., Singh, S., Slade, M. G., Woolley, A., & British Thoracic Society Interventional Bronchoscopy Guideline Group (2011). *British Thoracic Society guideline for advanced diagnostic and therapeutic flexible bronchoscopy in adults*. Thorax, 66 Suppl 3, iii1–iii21. https://doi.org/10.1136/thoraxjnl-2011-200713

[4]American Academy of Sleep Medicine. (2023) *The AASM Manual for the Scoring of Sleep and Associated Events Rules, Terminology and Technical Specifications* (3rd ver)

[5]Malaysian Thoracic Society. (2023). *Basic Lung Function Test*.

7. PERKHIDMATAN KARDIOLOGI

Penolong Pegawai Perubatan di dalam perkhidmatan Kardiologi bertanggungjawab dan berperanan:

7.1. Melaksanakan saringan kes mengikut keutamaan dan menjadualkan janji temu mengikut tarikh yang diarahkan oleh Pegawai Perubatan / Pakar.

7.2. Melaksanakan prosedur kardio diagnostik seperti *Electrocardiography* (ECG), *Exercise Stress Test** (*Treadmill*), *Dobutamine Stress Echocardiography* (*Pharmacological*), *Exercise Stress Echocardiography*, *Ambulatory Electrocardiography Monitoring** (Ujian *Holter*), *Ambulatory Blood Pressure Monitoring* (ABPM), *Tilt Table Test* dan *Echocardiography* mengikut Standard Operating Procedure yang ditetapkan. Antara prosedur *Echocardiography* meliputi *Transthoracic Echocardiography* (TTE 2D Echo), *Advanced Echocardiography* (3D, TDI, Strain Study), *Portable Echocardiography*.

7.3. Mengendalikan peralatan perubatan yang berkaitan agar berfungsi dengan baik dan siap sedia digunakan.

7.4. Membantu pakar bagi prosedur *Transesophageal Echocardiography* (TOE).

7.5. Mengendalikan *interrogation*, *programming* and *reprogramming of the implantable devices* dan merekod serta melaporkan sebarang keabnormalan kepada Pegawai Perubatan / Pakar.

7.6. Melaksanakan penilaian status hemodinamik pesakit dan prosedur invasif yang berkaitan di Makmal Invasif Kardiologi seperti *Transducer Set-up* & *Calibration* dan memaklumkan kepada Pakar sekiranya terdapat sebarang keabnormalan.

7.7. Membantu dalam prosedur invasif seperti *Diagnostic Angiography* (*Coronary/Peripheral Angiogram*), *Cardiac Catheterization* (*Left & Right Heart Catheterization*), *Cardiovascular Implantable Electronic Devices* (CIED), *Interventional* (*Percutaneous Coronary Intervention, Device Closure, Percutaneous Peripheral Angioplasty* dan *Structural Heart Intervention*), *Electrophysiology Study & Radiofrequency Ablation*.

7.8. Mengendalikan mesin *Adjunctive Invasive Procedure* serta menilai keadaan pesakit dan membantu bagi prosedur seperti *Intra-Aortic Balloon Pump* (IABP), *Intravascular Ultrasound* (IVUS), *Optical Coherence Tomography* (OCT), *Resting Flow Reserve* (RFR), *Fractional Flow Reserve*** (FFR/iFR), *Quantification Flow Reverse* (QFR), *Transcatheter Aortic Valve Implantation* (TAVI), *Rotational Atherectomy* (PTCRA), *Left Atrial Appendage Occluder* (Watchman).

Sumber rujukan:

[1]Medical Assistants Board. (2006). *Standard Operating Procedures for Medical Assistants in Cardiology.* Ministry of Health Malaysia.
[2]National Heart Association of Malaysia. (2018). *NHAM Transthoracic Echo Guide 2018*.
[3]Reményi, B., Wilson, N., Steer, A., Ferreira, B., Kado, J., Kumar, K., Lawrenson, J., Maguire, G., Marijon, E., Mirabel, M., Mocumbi, A. O., Mota, C., Paar, J., Saxena, A., Scheel, J., Stirling, J., Viali, S., Balekundri, V. I., Wheaton, G., Zühlke, L., … Carapetis, J. (2012). *World Heart Federation criteria for echocardiographic diagnosis of rheumatic heart disease--an evidence-based guideline*. Nature reviews. Cardiology, 9(5), 297–309. https://doi.org/10.1038/nrcardio.2012.7

8. PERKHIDMATAN PEDIATRIK

Penolong Pegawai Perubatan di dalam Perkhidmatan Pediatrik bertanggungjawab dan berperanan:

8.1. Melaksanakan saringan kes mengikut keutamaan dan menjadualkan janji temu mengikut tarikh yang diarahkan oleh Pegawai Perubatan / Pakar.[1]

8.2. Mengendalikan peralatan perubatan bagi prosedur invasif dan bukan invasif untuk tujuan diagnostik dan rawatan pesakit pediatrik seperti mesin *Cooling Therapy*, mesin Bantuan Pernafasan Berfrekuensi Tinggi (HFOV), mesin *Amplitude-integrated Electroencephalography* (aEEG), *Nitric Oxide Delivery System*, BiPAP/ BPAP, CPAP, dan *oxygen concentrator* di lokasi yang berkaitan.

8.3. Melaksanakan penghantaran pesakit yang kritikal ke fasiliti luar dan dalam hospital.[1]

8.4. Melakukan semua prosedur *Echocardiography* ke atas pesakit di dalam wad atas arahan Pakar Pediatrik.

Sumber rujukan:

[1]Medical Development Division. (2012). *Paediatric Services Operational Policy*. Ministry of Health Malaysia.

9. PERKHIDMATAN PEDIATRIK KARDIOLOGI

Penolong Pegawai Perubatan di dalam Perkhidmatan Pediatrik Kardiologi bertanggungjawab dan berperanan:

9.1. Klinik Pediatrik Kardiologi

9.1.1. Melaksanakan saringan kes mengikut keutamaan dan menjadualkan janji temu mengikut tarikh yang diarahkan oleh Pegawai Perubatan / Pakar.

9.1.2. Mengendalikan prosedur kardio diagnostik seperti *Electrocardiography* (ECG), *Exercise Stress Test** (*Treadmill*), *Ambulatory Electrocardiography Monitoring** (Ujian *Holter*) dan *Echocardiography* mengikut Standard Operating Procedure yang ditetapkan. Antara prosedur *Echocardiography* meliputi *Transthoracic Echocardiography* (TTE 2D Echo), *Advanced Echocardiography* (3D, TDI, Strain Study), *Portable Echocardiography*.

9.1.3. Mengendalikan peralatan perubatan yang berkaitan agar berfungsi dengan baik dan siap sedia digunakan.

9.1.4. Membantu pakar bagi prosedur *Transesophageal Echocardiography* (TOE) dan *Epicardial Echocardiography*.

9.2. Makmal Invasif Kardiologi (ICL) - Pediatrik

9.2.1. Haemodynamic Intracardiac Monitoring & Invasive Procedure

9.2.1.1. Melaksanakan penilaian status hemodinamik pesakit pediatrik dan prosedur invasif yang berkaitan di Makmal Invasif Kardiologi seperti *Transducer Set-up & Calibration* dan memaklumkan kepada Pakar sekiranya terdapat sebarang keabnormalan.

9.2.1.2. Membantu prosedur *Diagnostic Angiography* (*Structural Angiogram*), *Catheterization* (*Left & Right Heart Catheterization*), *Interventional* (*Device Closure, Percutaneous Transluminal Balloon Valvuloplasty of Aortic/ Pulmonary Valve, Patent Ductus Arteriosus Stenting, Right Ventricle Outlet Track Stenting, Transluminal Pulmonary Valve Implantation, Percutaneous Coronary Intervention*)

9.2.2. Electrophysiology Study & Radiofrequency Ablation

9.2.2.1. Melaksanakan pengendalian perisian sistem *Electrophysiology* (2D *Conventional* & 3D *Carto Mapping System*) semasa Pakar Pediatrik Kardiologi melakukan prosedur.

9.2.2.2. Menginterpretasi jenis-jenis arrithmia jantung bersama Pakar *Electrophysiology* melalui *Electrocardiography* (ECG) dan *Intracardiac Electrogram* (EGM) semasa prosedur.

9.3. Wad Paediatric Cardiology Intensive Care Unit (PCICU), High Dependency Unit (HDU) dan Wad Pediatrik Kardiologi

9.3.1. Mengendalikan peralatan perubatan khas pada pesakit seperti mesin Cooling Therapy, mesin Bantuan Pernafasan Berfrekuensi Tinggi (HFOV), mesin *Amplitude-integrated Electroencephalography* (aEEG)

dan *Nitric Oxide Delivery System*, BiPAP/ BPAP, CPAP, *oxygen concentrator* di lokasi yang berkaitan.

9.3.2. Melaksanakan penghantaran pesakit yang kritikal ke fasiliti luar dan dalam hospital.

9.3.3. Melaksanakan prosedur 2D *Echocardiography* di dalam wad meliputi *Screening*, sebelum dan selepas pembedahan atas arahan Pakar Pediatrik Kardiologi.

Sumber rujukan:

[1]Medical Assistants Board. (2006). *Standard Operating Procedures for Medical Assistants in Cardiology*. Ministry of Health Malaysia.

10. PERKHIDMATAN NEFROLOGI

Penolong Pegawai Perubatan di dalam Perkhidmatan Nefrologi bertanggungjawab dan berperanan:

10.1. Melaksanakan tugas penyaringan awal rujukan kes baru dan menjadualkan tarikh janji temu klinik mengikut keperluan (*urgent / non-urgent*) seperti yang diarahkan oleh Pegawai Perubatan / Pakar.

10.2. Melaksanakan aktiviti perkhidmatan di Klinik Nefrologi seperti mengambil darah bagi ujian diagnostik dan ujian klinikal serta menganalisis keputusan dan melaporkan kepada Pegawai Perubatan / Pakar.

10.3. Memberi khidmat nasihat pemilihan rawatan gantian buah pinggang (*Kidney Replacement Therapy Counseling*) kepada pesakit buah pinggang kronik yang sudah hampir kepada kegagalan buah pinggang tahap akhir (*End Stage Renal Failure*).

10.4. Melaksanakan prosedur rawatan penggantian fungsi buah pinggang (*Kidney Replacement Therapy*), *Continuous Kidney Replacement Therapy* (CKRT) iaitu rawatan Hemodialisis[1,2], *Peritoneal Dialysis*[3] serta melaksanakan rawatan *Extracorporeal Blood Purification* dengan selamat serta mengikut piawaian yang telah ditetapkan.

10.5. Mengendalikan mesin hemodialisis dalam rawatan *Kidney Replacement Therapy* (KRT) dan *Continuous Renal Replacement Therapy* (CRRT) dalam rawatan *Continuous Kidney Replacement Therapy* (CKRT) supaya sentiasa dalam keadaan baik dan selamat digunakan.

10.6. Melaksanakan penilaian *vascular access* sebelum, semasa dan selepas rawatan dialisis mengikut preskripsi/berjadual seperti yang telah ditetapkan.[1]

10.7. Melaksanakan prosedur diagnostik bagi penilaian keberkesanan program rawatan dialisis kepada pesakit seperti *Urea Kinetic Monitoring* (Kt/V), *Dilution Ultrasound Measurement* (Transonic), *Body Composition Monitoring* (BCM), dan lain-lain prosedur.[1]

10.8. Membantu dalam penyediaan pesakit sebelum program pemindahan buah pinggang sama ada kes *living related transplant* atau *deceased donor* bagi *Recipient* dan *Donor Workup* dan selepas pemindahan buah pinggang bagi Melaksanakan *Therapeutic Drug Monitoring* (TDM) dan lain lain prosedur.

10.9. Mendokumentasikan data-data pesakit ke dalam aplikasi *National Renal Registry* (eNRR), *Malaysian Kidney Allocation System* (MyKas) dan melaksanakan program pemantauan pengurusan kualiti di Jabatan Nefrologi.

Sumber rujukan:

[1]Medical Assistants Board. (2020). *Standard Operating Procedure for Assistant Medical Officers in Haemodialysis (2nd ed)*. Ministry of Health Malaysia.

[2]Malaysian Society of Nephrology. (2018). *The National Haemodialysis Quality Standards*. Ministry of Health Malaysia.

[3]Malaysian Society of Nephrology. (2020). *National Peritoneal Dialysis Quality Standards*. Ministry of Health Malaysia.

11. PERKHIDMATAN PSIKIATRI DAN KESIHATAN MENTAL

Penolong Pegawai Perubatan di dalam Perkhidmatan Psikiatri dan Kesihatan Mental bertanggungjawab dan berperanan:

11.1. Melaksanakan saringan kes baru mengikut keutamaan dan menjadualkan janji temu mengikut tarikh yang diarahkan oleh Pegawai Perubatan / Pakar.

11.2. Melaksanakan intervensi awal dengan melakukan *Mental Health Triage, History Taking, Mental State Examination* (MSE) dan seterusnya ujian diagnostik di Klinik Pakar Psikiatri dan Kesihatan Mental.[1,3]

11.3. Mengurus kes psikiatri bagi Pasukan Komuniti Psikiatri (PKP) dalam pengendalian kes-kes akut dan asertif seperti lawatan mengikut *Level of Care* yang telah ditetapkan, mengesan kes-kes defaulter, mengadakan Program Intervensi Keluarga, menjalankan *Crisis Intervention*, melaksanakan *Psychoeducation* kepada pesakit serta keluarga dan melaksanakan *Medication Adherence Program* untuk Program *Methadone*. [1,3]

11.4. Melaksanakan rawatan, sokongan pekerjaan dan Psikososial Rehabilitasi kepada pesakit psikiatri bagi komuniti setempat di Pusat Kesihatan Mental Masyarakat (MENTARI).[1,3]

11.5. Mengendalikan kemasukan dan *discharge*, penjagaan, perawatan serta pemulihan pesakit psikiatri bagi perawatan pesakit dalam.[2,3]

11.6. Melaksanakan persediaan dan pengurusan pesakit sebelum, semasa dan selepas menjalani rawatan *Electro Convulsive Therapy* (ECT).[1 3]

11.7. Melaksanakan Promosi Kesihatan Mental kepada masyarakat dan mendidik mereka untuk mengamalkan kesihatan mental yang baik.[2]

11.8. Menganggotai *Pasukan Psychological First Aid* (PFA) semasa berlakunya krisis / bencana.[2]

Sumber rujukan:

[1]Medical Assistants Board. (2016). *Standard Operating Procedures For Assistants Medical Officer in Psychiatry (2nd ed)*. Ministry of Health Malaysia.
[2]Goverment of Malaysia. (2010). *Mental Health Regulations 2010*.
[3]Goverment of Malaysia. (2001). *Mental Health Act 2001*.

12. PERKHIDMATAN NEUROFISIOLOGI

Penolong Pegawai Perubatan di dalam Perkhidmatan Neurofisiologi bertanggungjawab dan berperanan:

12.1. Melaksanakan tugas penyaringan awal rujukan kes baru dan menjadualkan tarikh janji temu klinik mengikut keutamaan seperti yang diarahkan oleh Pegawai Perubatan / Pakar.

12.2. Melaksanakan pengambilan sejarah ringkas pesakit, pengambilan tanda-tanda vital, pemeriksaan anggota badan tertentu mengikut carta neurologi, melaksanakan *diagnostic baseline investigation* mengikut arahan serta bertanggungjawab memaklumkan keputusan hasil pemeriksaan kepada Pakar sebagai saringan dalam pemberian janji temu berkaitan prosedur neurofisiologi.[1,2]

12.3. Melaksanakan prosedur neurofisiologi seperti *Electroencephalogram* (EEG), *Visual Evoked Potential* (VEP), *Brainstem Auditory Evoked Potential* (BAEP), *Somatosensory Evoked Potential* (SSEP), *Video Telemetry Recording* (VTR), *Polysomnography* (PSG), *Transcranial Doppler* (TCD), *Autonomic Function Test* (AFT), *Transcranial Magnetic Stimulation* (TMS), *Electro Cerebral Inactivity* (ECI) dan *Nerves Conduction Study* (NCS) .[1,2]

12.4. Mengendalikan peralatan klinikal dan teknikal bagi prosedur *Electromyogram* (EMG).

12.5. Memastikan alat radas neurodiagnostik dalam keadaan baik dan menepati tahap piawaian yang ditetapkan supaya prosedur neurodiagnostik yang dilakukan adalah tepat, selamat serta mematuhi peraturan sedia ada.

12.6. Mendokumentasikan dan melaporkan setiap penemuan ujian yang dilaksanakan kepada Pakar.[1.2]

Sumber rujukan:

[1]Medical Assistants Board. (2012). *Standard Operating Procedures for Assistant Medical Officer in Clinical Neurophysiology (2nd ed)*. Ministry of Health Malaysia.
[2]Medical Assistants Board. (2008). *Clinical Neurophysiology Procedures Protocol for Assistant Medical Officer*. Ministry of Health Malaysia.

13. PERKHIDMATAN DERMATOLOGI

Penolong Pegawai Perubatan di dalam Perkhidmatan Dermatologi bertanggungjawab dan berperanan:

13.1. Mengendalikan Klinik Pakar Dermatologi, Klinik Perubatan Genito-Urinari (PGU) dan Klinik Kusta (Hansen) dengan melakukan penyaringan pesakit kes baru dan memberikan janji temu mengikut keutamaan.[1,2]

13.2. Melaksanakan penyediaan pesakit dan peralatan sebelum, semasa dan selepas prosedur invasif atau bukan invasif bagi mendapatkan diagnosis serta rawatan di Klinik Pakar Dermatologi dan Klinik Perubatan Genito-Urinari (PGU).[1]

13.3. Melakukan prosedur calitan torehan kulit (*Slit Skin Smear*), pencelupan (*Staining*), membaca slaid dan melaporkan keputusan di Klinik Kusta (Hansen).[1,2]

13.4. Melaksanakan pemeriksaan dan pemantauan berkala serta mengesan kes relapse dalam tempoh pengawasan (*surveillance*).[1]

13.5. Melaksanakan sesi kaunseling dan pendidikan kesihatan, melaporkan notifikasi kes baru serta melibatkan diri dalam Program Kawalan Kusta Kebangsaan (MyKUSTA).[1,2]

13.6. Memastikan semua peralatan perubatan diselenggara dan siap sedia untuk digunakan dalam prosedur invasif dan bukan invasif.

Sumber rujukan:

[1]Medical Development Division. (2016). *Dermatology Services Operational Policy*. Ministry Of Health Malaysia

[2]Bahagian Kawalan Penyakit. (2014). *Manual Pengurusan Kusta Kebangsaan (Edisi Kedua)*. Kementerian Kesihatan Malaysia.

14. PERKHIDMATAN PEMBEDAHAN AM

Penolong Pegawai Perubatan (PPP) dalam Perkhidmatan Pembedahan Am bertanggungjawab dan berperanan:

14.1. Melaksanakan saringan kes mengikut keutamaan dan menjadualkan janji temu mengikut tarikh yang diarahkan oleh Pegawai Perubatan / Pakar.[1]
14.2. Mengendalikan peralatan perubatan yang berkaitan agar berfungsi dengan baik dan siap sedia digunakan.[1]
14.3. Membantu Pegawai Perubatan / Pakar dalam melakukan prosedur seperti *Endoanal / rectal ultrasound*.[1]
14.4. Melaksanakan pengurusan pesakit, peralatan, ruang pembedahan sebelum, semasa dan selepas prosedur.
14.5. Membantu Pegawai Perubatan dalam merancang dan melaksanakan pelan rawatan untuk pesakit serta memastikan penjagaan yang berterusan.
14.6. Melaksanakan pengambilan sampel cecair dari tubuh badan untuk tujuan pendiagnosaan atas arahan Pegawai Perubatan / Pakar.
14.7. Memberikan maklumat dan pendidikan kepada pesakit dan keluarga mengenai keadaan kesihatan, rawatan, dan pencegahan penyakit.
14.8. Merekodkan maklumat perubatan dengan teliti dalam rekod kesihatan pesakit, termasuk kemajuan rawatan dan tindak balas terhadap terapi

Sumber rujukan:

[1]Medical Development Division. (2018*). General Surgical Services Operational Policy*. Ministry of Health Malaysia.

15. PERKHIDMATAN ORTOPEDIK

Penolong Pegawai Perubatan di dalam Perkhidmatan Ortopedik bertanggungjawab dan berperanan:

15.1. Melaksanakan tugas penyaringan awal rujukan kes baru dan menjadualkan tarikh janji temu klinik mengikut keutamaan seperti yang diarahkan oleh Pegawai Perubatan / Pakar.

15.2. Melaksanakan prosedur klinikal seperti berikut:

15.2.1. *Closed Manipulation* & *Reduction of Fracture / Dislocation* (CMR) dan *Dressing*.[1, 2]

15.2.2. Prosedur pemasangan dan membuka semua jenis *plaster cast, plaster slab, bandaging, strapping, splinting, orthosis, wedging, bivalve, splitting, trimming cast, open window of the cast, skin traction, skeletal traction, halovest* dan *medical device*.[1, 2]

15.2.3. Prosedur membuka peralatan khas semua jenis *external fixation, crutch field skull – tip pin* dan *halo pin*.[1, 2]

15.3. Melaksanakan tugas di Dewan Bedah Am dan Sub-Kepakaran Ortopedik seperti:

15.3.1. Menyediakan dan melakukan prosedur posisi pesakit yang bersesuaian dengan jenis pembedahan yang akan dilaksanakan.[1, 2]

15.3.2. Sebagai First / Second Assistant dalam pasukan pembedahan mengikut garis panduan dan tatacara yang ditetapkan.[1, 2]

15.3.3. Melaksanakan pengendalian peralatan (*instrumentation/ implant*) semasa pembedahan (*scrub instrument/ implant* sub-kepakaran).[1, 2]

15.4. Mengendalikan peralatan perubatan yang berkaitan agar berfungsi dengan baik dan siap sedia digunakan seperti *Arthroscopy Monitor, Microcopy Surgery, Tourniquet Machine, Cast Cutter*, aksesori katil pembedahan / wad dan lain-lain.1, 2

Sumber rujukan:

[1]Medical Assistants Board. (2006). *Standard Operating Procedures For Medical Assistants in Orthopaedic*. Ministry of Health Malaysia.

[2]Assistant Medical Officer Service Section, Medical Practice Division. (2024). *Standard Practice Guidelines for Assistant Medical Officer in Orthopaedic Services*. Ministry of Health Malaysia.

16. PERKHIDMATAN OBSTETRIK & GINEKOLOGI

Penolong Pegawai Perubatan di dalam Perkhidmatan Obstetrik & Ginekologi (O&G) bertanggungjawab dan berperanan:

16.1. Melaksanakan tugas penyaringan awal rujukan kes baru dan menjadualkan tarikh janji temu klinik mengikut keutamaan seperti yang diarahkan oleh Pegawai Perubatan / Pakar.

16.2. Mengendalikan mesin ultrasound, melaksanakan pemeriksaan ultrasonografi, mencatat dan melaporkan keputusan pemeriksaan ultrasound kepada Pegawai Perubatan / Pakar ke atas pesakit-pesakit Obstetrik & Ginekologi serta memastikan mesin ultrasound berfungsi dalam keadaan baik dan boleh digunakan.

16.3. Membantu Pegawai Perubatan / Pakar semasa melakukan prosedur invasif bagi tujuan penyiasatan dan rawatan seperti; *Amniocentesis, Amnioreduction, Amnioinfusion* dan sebagainya.

16.4. Melaksanakan pemeriksaan awal kehamilan '*Early Pregnancy Assessment*' (EPAU) seperti membuat penyaringan surat rujukan pesakit-pesakit EPAU, pengambilan sejarah pesakit, pengambilan tanda-tanda vital, pemeriksaan abdomen, melakukan 'diagnostic scanning' dan pemeriksaan faraj (*Vaginal Examination* dan spekulum) mengikut arahan Pegawai Perubatan atau Pakar Perubatan O&G dan bertanggungjawab memaklumkan sebarang keputusan pemeriksaan kepada Pegawai Perubatan atau Pakar Perubatan O&G.

16.5. Melaksanakan prosedur *Removal of Implanon*, pemeriksaan *Transvaginal Scan* bagi *mapping follicular tracking*, prosedur *Intrauterine Insemination* (IUI) seperti penyediaan dan analisis sperma, *Chemoport Infusion*, *High Vaginal Swab* (HVS), *Pap Smear, Endometrial Pipelle Sampling*, Mengendalikan ujian pemeriksaan '*Urodynamic Study*' untuk kes-kes *urinary incontinence* mengikut arahan Pegawai Perubatan / Pakar.

16.6. Membantu Pegawai Perubatan / Pakar melaksanakan *Manual Vacuum Aspiration* (MVA), memasang Implanon, prosedur *Intrauterine Insemination* (IUI), *Laparoscopy, Hysteroscopy dan Colposcopy*.

16.7. Sebagai *First / Second Assistant* dalam pasukan pembedahan mengikut garis panduan dan tatacara yang telah ditetapkan.[1]

16.8. Mengendalikan peralatan perubatan yang berkaitan agar berfungsi dengan baik dan siap sedia digunakan.

Sumber rujukan:

[1]Medical Development Division. (2010). *Operational Policy in Obstetrics and Gynaecology Services.* Ministry of Health Malaysia.

17. PERKHIDMATAN OFTALMOLOGI

Penolong Pegawai Perubatan di dalam Perkhidmatan Oftalmologi bertanggungjawab dan berperanan:

17.1. Melaksanakan saringan bagi pemberian janji temu biasa atau tindakan segera berdasarkan ujian penglihatan, ujian *Relative Afferent Pupillary Defect* (RAPD) dan pengembangan anak mata mengikut arahan Pegawai Perubatan atau Pakar.[1,2]

17.2. Melaksana, menganalisis dan merekod prosedur diagnostik bukan invasif seperti *Fundus Fluorescein Angiography* (FFA), *Optical Coherence Tomography* (OCT), pengambilan *Intraocular Pressure* (*contact* atau *non-contact*), *Fundus Photography*, *Direct Ophthalmoscope* dan prosedur-prosedur yang lain serta memaklumkan keputusan kepada Pegawai Perubatan atau Pakar.[1,2]

17.3. Menyediakan peralatan dan membantu Pegawai Perubatan atau Pakar di dalam pelaksanaan prosedur dan pembedahan oftalmik seperti *Incision & Curettage, Syringing of Lacrimal Passages, Intravitreal Injection*, pembedahan katarak serta lain-lain prosedur mengikut garis panduan dan tatacara yang telah ditetapkan.[2]

17.4. Sebagai Pakar Mata Tiruan (*Ocularist*) dengan menghasilkan mata prostetik dan memberi khidmat pendidikan kesihatan berkenaan dengan cara penjagaan mata palsu.[2]

Sumber rujukan:

[1]Ministry of Health Malaysia. (2017). *Diabetic Retinopathy Screening (2nd ed*). Training Module for Healthcare Providers. MOH Diabetic Retinopathy Screening Team.

[2]Assistant Medical Officer Service Section, Medical Practice Division. (2024). *Standard Practice Guidelines for Assistant Medical Officer in Ophthalmology Services*. Ministry of Health Malaysia.

18. PERKHIDMATAN OTORINOLARINGOLOGI (ORL)

Penolong Pegawai Perubatan dalam Perkhidmatan Otorinolaringologi bertanggungjawab dan berperanan:

18.1. Melaksanakan saringan kes mengikut keutamaan dan menjadualkan janji temu mengikut tarikh yang diarahkan oleh Pegawai Perubatan / Pakar.

18.2. Melaksanakan prosedur khas seperti:

18.2.1. Otologi: *Examination Under Microscope* (EUM)[1], *Ear Toileting*[1]

18.2.2. Rinologi: *Skin Prick Test*[1] untuk kes *Allergic Rhinitis*[1]

18.3. Mengendalikan peralatan diagnostik dan peralatan untuk tujuan pembedahan supaya berfungsi dalam keadaan baik di klinik atau dewan bedah.

18.4. Sebagai *First / Second Assistant* dalam pasukan pembedahan Otorinolaringologi mengikut garis panduan dan tatacara yang telah ditetapkan.

18.5. Menilai pesakit serta melaksanakan prosedur diagnostik dan terapeutik seperti *Polysomnography* (PSG)[2,3] atau *Positive Airway Pressure* (PAP).[2,3]

18.6. Mendokumentasi, menganalisis dan melaporkan setiap penemuan ujian *Sleep Study* [2,3] dan *Positive Airway Pressure trial*[3] kepada Pakar.

18.7. Melakukan saringan pendengaran neonatal (*Universal Neonatal Hearing Screening*).[4]

Sumber rujukan:

[1]Medical Assistant Board. (2007). *Standard Operating Procedures For Assistant Medical Officer in Otorhinolaryngology*. Ministry of Health Malaysia.

[2]Otorhinolaryngology Services. (2021). *Otorhinolaryngology Sleep Service Guidelines*. Ministry of Health Malaysia.

[3]American Academy of Sleep Medicine. (2023). *The AASM Manual for the Scoring of Sleep and Associated Events Rules, Terminology and Technical Specifications (3rd ver).*

4Medical Development Division. (2014). *Guidelines For Neonatal Hearing Screening*. Ministry of Health Malaysia.

19. PERKHIDMATAN ENDOSKOPI

Penolong Pegawai Perubatan di dalam Perkhidmatan Endoskopi bertanggungjawab dan berperanan:

19.1. Melaksanakan saringan dan pengurusan janji temu pesakit mengikut keperluan dari rujukan klinik dan wad.[1]
19.2. Melaksanakan pengurusan pesakit sebelum, semasa dan selepas prosedur.[1]
19.3. Menyediakan dan memberi suntikan sedasi intravena mengikut arahan Pegawai Perubatan atau Pakar.[1]
19.4. Membantu pakar semasa melaksanakan prosedur di Unit Endoskopi seperti OGDS (*Oesophageal Gastro Duodenoscopy*), *Colonoscopy, Sigmoidoscopy*, ERCP (*Endoscopy Retrograde Cholangiopancreatography*), *Endoscopic Ultrasound, Cystoscopy, Urea Breath Test* dan *Manometry*.[1]
19.5. Mengendalikan peralatan dan aksesori endoskopi merangkumi aktiviti seperti *reprocessing*, penyimpanan, penjagaan peralatan perubatan dan pakai buang.
19.6. Mengendalikan pengurusan dan penempatan pesakit (*disposition*) selepas prosedur.[1]

Sumber rujukan:

[1]Medical Development Division. (2016). *Gastroenterology Services Operational Policy*. Ministry of Health Malaysia.

20. PERKHIDMATAN KARDIOTORASIK SURGERI

Penolong Pegawai Perubatan di dalam Perkhidmatan Kardiotorasik Surgeri bertanggungjawab dan berperanan:

20.1. Melaksanakan saringan kes mengikut keutamaan dan menjadualkan janji temu mengikut tarikh yang diarahkan oleh Pegawai Perubatan / Pakar.

20.2. Melaksanakan prosedur *Vessel Harvesting* (*Artery & Vein*) secara *conventional* atau *endoscopic method* di Dewan Bedah Kardiotorasik mengikut teknik dan tatacara yang ditetapkan untuk dijadikan komponen pintasan jantung (*Bypass*).[1]

20.3. Melaksanakan prosedur pembedahan bersama Pakar Bedah Kardiotorasik dengan berperanan sebagai *First atau Second Assistant* mengikut garis panduan dan tatacara yang ditetapkan.[1]

20.4. Melaksanakan prosedur diagnostik bukan invasif (*Perioperative Transthoracic Echocardiography, Ultrasound Duplex Venous Assessment*) serta prosedur klinikal sebelum dan selepas pembedahan terhadap pesakit mengikut garis panduan yang ditetapkan. Melakukan interpretasi dan melaporkan keputusan pemeriksaan kepada Pegawai Perubatan atau Pakar Bedah Kardiotorasik.[1, 2, 3]

20.5. Membantu melaksanakan prosedur *Homograft* Jantung serta menjalankan audit klinikal terhadap kualiti dan kadar kebolehjangkitan.

20.6. Mengendalikan peralatan perubatan dan bukan perubatan supaya berfungsi dengan baik serta sedia digunakan seperti mesin *Echocardiography, EchoPac System, Electrocardiogram, Portable Ultrasound, Ventilator, Fluoroscopy Mobile* (C-arm), *Arterial Blood Gases* dan lain-lain peralatan yang berkaitan.[3, 4]

Sumber rujukan:

[1]Medical Development Division. (2011). *Cardiothoracic Surgery Services Operational Policy*. Ministry of Health Malaysia.

[2]Medical Assistants Board. (2006). *Standard Operating Procedures for Medical Assistants in Cardiology*. Ministry of Health Malaysia.

[3]Medical Radiation Surveillance Division. (2022). *Guidelines on Ultrasound Usage in Medical Practice*. Ministry of Health Malaysia.

[4]Medical Development Division. (2012). *National Point of Care Testing (POCT) Policy and Guidelines*. Ministry of Health Malaysia.

21. PERKHIDMATAN KARDIOTORASIK ANESTESIOLOGI DAN PERFUSI

Penolong Pegawai Perubatan di dalam Perkhidmatan Kardiotorasik Anestesiologi dan Perfusi bertanggungjawab dan berperanan:

21.1. Mengendalikan mesin Operasi Jantung dan Paru-paru (*Heart Lung Machine*) dalam kes Pembedahan Jantung Terbuka dan *Minimally Invasive Cardiac Surgery* (MIS).

21.2. Mengendalikan mesin *Extracorporeal Membrane Oxygenation* (ECMO) untuk *Extracorporeal Life Support* (ECLS).[1]

21.3. Mengendalikan mesin-mesin sokongan klinikal seperti *Intra-Aortic Balloon Pump* (IABP), *Cell Salvage, Temperature Management System, Bronchoscope, Cardiac Output Monitoring, Transducer* dan *Point of Care Testing* (POCT).[2]

21.4. Mengendalikan mesin *General Anaesthetic* (GA) bagi kegunaan kes pembedahan jantung atau torasik di *Cardiothoracic Operation Theatre* (COT) dan *Intensive Catheter Lab* (ICL).

21.5. Menyediakan dan memastikan mesin bantuan pernafasan (*Ventilator*) dan *Bilevel Positive Airway Pressure* (BiPAP / BPAP) dalam keadaan baik dan selamat untuk digunakan dalam perkhidmatan *Cardiothoracic Intensive Care Unit* (CICU).[3]

Sumber rujukan:

[1]Malaysian Cardiothoracic Anaesthesiology and Perfusion Society. (2023). *Guidelines For Adult Extracorporeal Membrane Oxygenation.*

[2]Medical Development Division. (2012). *National Point of Care Testing (POCT) Policy and Guidelines*. Ministry of Health Malaysia.

[3]Medical Development Division. (2013). *Anaesthesia & Intensive Care Service Operational Policy (2nd ed)*. Ministry of Health Malaysia.

22. PERKHIDMATAN PEMBEDAHAN PLASTIK DAN REKONSTRUKTIF

Penolong Pegawai Perubatan di dalam Perkhidmatan Pembedahan Plastik dan Rekonstruktif bertanggungjawab dan berperanan:

22.1. Melaksanakan saringan kes mengikut keutamaan dan menjadualkan janji temu mengikut tarikh yang diarahkan oleh Pegawai Perubatan / Pakar Perubatan

22.2. Mengendalikan peralatan dan keperluan khas seperti *Ultrasound Doppler, Vascular Doppler, Head Lamp, Monofilament Neuropathy Screening Tool* yang diperlukan dalam pemeriksaan pesakit di bilik prosedur / bilik pemeriksaan untuk kegunaan Pegawai Perubatan dan Pakar Bedah Plastik agar sentiasa berfungsi dengan baik.

22.3. Melaksanakan prosedur klinikal seperti *Change of Dressing, Removal of Skin Stapler, Stitch to Open, Removal of K-Wire, Back Slap, Negative Pressure Wound Therapy, Removal of Arch Bar* dan lain-lain.

22.4. Melaksanakan prosedur pembedahan kecil terhadap pesakit dengan pemantauan Pegawai Perubatan / Pakar di klinik.

22.5. Sebagai *First Assistant* dalam prosedur pembedahan yang melibatkan bius setempat / bius am serta melaksanakan prosedur *Skin Graft Mesher* ke atas pesakit kebakaran dan kelecuran bersama Pegawai Perubatan / Pakar.

Sumber rujukan:

[1]Medical Development Division. (2018). *General Surgical Services Operational Policy*. Ministry of Health Malaysia.

23. PERKHIDMATAN TANGAN DAN MIKROSURGERI

Penolong Pegawai Perubatan di dalam Perkhidmatan Tangan dan Mikrosurgeri bertanggungjawab dan berperanan:

23.1. Mengendalikan peralatan serta keperluan dalam pembedahan kecemasan dan elektif di dewan bedah.

23.2. Melaksanakan prosedur pembaikan serta penyambungan semula microvascular bagi setiap kes yang berkaitan dengan *microsurgery* seperti *replantation, revascularization, arterial repair* untuk kes *liver transplant* dan *neurovascular repairs* bagi kes-kes *upper limb*.[1]

23.3. Melaksanakan *Closed Manipulative Reduction* (CMR) *under wrist/ digital block* bagi kes-kes upper limb, pemasangan *plaster of paris*, pemasangan *splinting*, pencucian luka serta pendidikan kesihatan yang berkaitan kepada pesakit.

23.4. Membantu pakar dalam melatih pegawai-pegawai yang berkaitan bagi setiap program *microsurgery laboratory training* yang berlangsung di jabatan.[1]

Sumber rujukan:

[1]Ahmad, T. S., Ahmad, A. A., & Abdullah, S. (2021). *Hand Surgery in Malaysia*. Journal of hand and microsurgery, 13(1), 21–26. https://doi.org/10.1055/s-0040-1721942

24. PERKHIDMATAN NEUROSURGERI

Penolong Pegawai Perubatan di dalam Perkhidmatan Neurosurgeri bertanggungjawab dan berperanan:

24.1. Melaksanakan saringan kes mengikut keutamaan dan menjadualkan janji temu mengikut tarikh yang diarahkan oleh Pegawai Perubatan / Pakar.[1]

24.2. Memastikan semua peralatan perubatan yang digunakan berfungsi dengan baik sebelum, semasa dan selepas proses pergerakan atau pemindahan pesakit inter / intra hospital.

24.3. Mengendalikan peralatan perubatan di semua kawasan klinikal jabatan supaya dalam keadaan berfungsi dengan baik dan siap sedia untuk digunakan seperti *Image Guided System* (IGS), *Intra Operative Neuro Monitoring* (IONM), *Arterial Blood Gases* (ABG) *Machine, Ventilator Machine* dan lain-lain peralatan perubatan yang berkaitan.[2]

24.4. Sebagai *First / Second Assistant* dalam pasukan pembedahan mengikut garis panduan dan tatacara yang telah ditetapkan.[1]

Sumber rujukan:

[1]Medical Development Division. (2018). *General Surgical Services Operational Policy*. Ministry of Health Malaysia.

[2]Medical Development Division. (2012). *National Point of Care Testing (POCT) Policy and Guidelines*. Ministry of Health Malaysia.

25. PERKHIDMATAN UROLOGI

Penolong Pegawai Perubatan di dalam Perkhidmatan Urologi bertanggungjawab dan berperanan:

25.1. Melaksanakan saringan kes mengikut keutamaan dan menjadualkan janji temu mengikut tarikh yang diarahkan oleh Pegawai Perubatan / Pakar.

25.2. Menyediakan pesakit dan melaksanakan prosedur *Extracorporeal Shockwave Lithotripsy* (ESWL), *Uroflowmetry, Bladder Scan, Clean Intermittent Self-Catheterization* (CISC), *Insert or Change of Catheter Bladder Drainage, Change of Suprapubic Catheter, Change Nephrostomy Tube, Trial of Void*, memberikan suntikan *Hormonal Therapy (Lucrin & Zoladex)*, *Intravesical Chemotherapy*, mengambil spesimen darah dan urine.

25.3. Membantu Pegawai Perubatan / Pakar di dalam melaksanakan prosedur seperti *Transrectal Ultrasound Guided Prostate Biopsy* (TRUS), *Cystoscopy Examination* (CE), *Removal of Stent* (ROS), *Catheter Bladder Drainage Guided, Suprapubic Catheter insertion, Cystogram, Urodynamic Study* (UDS), *Retrograde Pyelogram* (RPG), *Stenting, Ureteroscopic Lithotripsy* (URSL), *Transurethral Resection of Bladder Tumour* (TURBT), *Transurethral Resection of the Prostate* (TURP), *Open Vesicolithotomy, Vesicolithotripsy, Retrograde Intrarenal Surgery* (RIRS), *Percutaneous Nephrolithotomy* (PCNL), *Urethroplasty, Transperineal Magnetic Resonance Imaging Fusion Biopsy, Partial Nephrectomy, Nephrectomy, Renal Transplant, Orchidectomy, Cystectomy, Open Radical Prostatectomy, Endoscopic Combined Intrarenal Surgery* (ECIRS) di klinik, pusat rawatan harian atau dewan bedah.

25.4. Sebagai *First / Second Assistant* dalam pasukan pembedahan mengikut garis panduan dan tatacara yang telah ditetapkan.[1]

25.5. Mengendalikan peralatan perubatan yang berkaitan agar berfungsi dengan baik dan siap sedia digunakan.

Sumber rujukan:

[1]Medical Development Division. (2018). *General Surgical Services Operational Policy*. Ministry of Health Malaysia.

26. PERKHIDMATAN PEMBEDAHAN VASKULAR

Penolong Pegawai Perubatan di dalam Perkhidmatan Pembedahan Vaskular bertanggungjawab dan berperanan:

26.1. Melaksanakan saringan kes mengikut keutamaan dan menjadualkan janji temu mengikut tarikh yang diarahkan oleh Pegawai Perubatan / Pakar.[1]

26.2. Melaksanakan prosedur *Ankle Brachial Systolic Index* (ABSI), *Photophletysmograph* (PPG), *Skin Perfusion Pressure* (SPP), *Lymphatic Therapy, Sclerotherapy procedure, Duplex Ultrasound Scan*, dan lain-lain prosedur yang berkaitan di makmal vaskular.

26.3. Melaksanakan tugas sebagai *First / Second Assistant* di Dewan Bedah Sub-Kepakaran Vaskular bagi kes *open* dan *endovascular surgery* dalam pasukan pembedahan mengikut garis panduan dan tatacara yang telah ditetapkan.[1]

26.4. Melakukan prosedur Penjagaan Luka Pembedahan Vaskular seperti *modern dressing, vascular assessment* dan *compression therapy*.

26.5. Mengendalikan peralatan perubatan yang berkaitan agar berfungsi dengan baik dan siap sedia digunakan di kawasan klinikal dan semasa proses pergerakan atau pemindahan pesakit inter / intra hospital.

Sumber rujukan:

[1]Medical Development Division. (2018). *General Surgical Services Operational Policy*. Ministry of Health Malaysia.

MINISTRY OF HEALTH MALAYSIA

ROLES AND RESPONSIBILITIES OF ASSISTANT MEDICAL OFFICER

ASSISTANT MEDICAL OFFICERS SERVICE SECTION

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Glossary

Managing medical equipment:
The ability to master, manage, and set up basic components of equipment, including user troubleshooting, handling and maintenance of medical devices.

First / Second Assistant:
Acts as an assistant to the Medical Officer / Specialist during a procedure, either as the primary assistant (First Assistant) or the secondary assistant (Second Assistant).

Middle Level Care Practitioner:
Involved in patient care, conducting diagnostic tests, rehabilitation, and limited health advisory services compared to the scope and complexity of a Medical Officer's tasks.

Clinical Governance:
The management and organisation of processes within health services to ensure quality and patient safety.

Inter/Intra Facility:
Movement of patients from one healthcare facility to another (Inter). Movement of patients within the same healthcare facility (Intra). This can be done through air, water, or ground transport.

Smart Partnership:
Strategic collaboration between two or more parties that combines resources, expertise, and innovation to achieve common goals.

Decontamination:
The process of removing or reducing contamination of hazardous materials, such as biological, chemical, radiation, or nuclear from surfaces or objects.

Advocacy:
Efforts to support, defend, or preserve the rights, interests, or specific issues of individuals, groups, or communities. It aims to influence decisions and actions in areas such as policy, legislation, and society.

Assertive:
Attitude or behaviour that demonstrates confidence and the ability to express opinions, needs, or rights in a firm manner while still respecting others.

Intervention:
Actions taken to address health issues, such as medical treatment, psychological therapy, or rehabilitation programs.

Invasive:
Procedures that involve penetrating the inner layers of the skin, whether through incisions, injections, laser shots, any act of piercing the skin (even without external wounds), or inserting something into the body.

Non-Invasive:
External procedures without any injections, cutting, puncturing, penetrating the skin, or inserting anything into the body.

Calibration:
Calibration refers to the process of aligning or verifying the accuracy and precision of measuring tools or instruments.

Diagnostic:
The process of identifying or determining diseases, conditions, or issues through examination, testing, and analysis.

Hemodynamic:
The flow of blood and pressure within the cardiovascular system, including blood pressure, stroke volume, and vascular resistance.

INTRODUCTION TO THE PROFESSION OF ASSISTANT MEDICAL OFFICER

The profession of Assistant Medical Officer is crucial in delivering medical and health services to the Malaysian citizens. The early history of this profession dates to 1784 when it was known as the Apothecary. On September 16, 1889, a memorandum from the Governor of the Straits Settlements changed the title from Apothecary to Sub Assistant Surgeon, or more commonly known as the Dresser. The profession underwent further changes, with the title Dresser being renamed to Hospital Assistant in 1936. After Malaysia's independence, the title Hospital Assistant was again changed to Medical Assistant in 1985. Today, following several updates to keep pace with the times, the profession's name was changed to Assistant Medical Officer in 2007, and this title remains until today. The Assistant Medical Officer plays a vital role in providing healthcare services to the community based on five main areas of responsibility:

1. Treating patients within the specified scope.
2. Performing diagnostic tests and screenings.
3. Managing medical equipment for treatment purposes.
4. Managing public health programs.
5. Handling pre-hospital services.

Assistant Medical Officers are registered under Act 180, the Medical Assistants (Registration) Act 1977, and are regulated by the Assistant Medical Officer Services Branch (CPPPP), Medical Practice Division, Ministry of Health Malaysia. In terms of academic qualifications, the Hospital Assistant Certificate was upgraded to the Medical Assistant Diploma in 1998 and is now referred to as the Diploma in Medical and Health Sciences.

Nowadays, the profession of Assistant Medical Officer is not only employed within the Ministry of Health Malaysia but also in other agencies across different ministries. Their services are utilized in the Ministry of Defence, Military Hospitals, the Prison Department, the Ministry of Education in Polytechnics and Universities; the Department of Social Welfare; and the Narcotics Rehabilitation Centres (PUSPEN). In addition to these postings, Assistant Medical Officers also serve in the Malaysian Civil Defence Force, the Fire and Rescue Department of Malaysia, and the Royal Malaysia Police.

In the private sector, the services of Assistant Medical Officers are not limited to health and medical industries alone. Their expertise is also required in plantation areas, industrial zones, and the oil and gas industry. Many Assistant Medical Officers working in these sectors hold qualifications as Occupational Safety and Health Officers.

ROLE OF THE ASSISTANT MEDICAL OFFICER

Assistant Medical Officers are responsible for providing health services as Middle-Level Care Practitioners within the Ministry of Health Malaysia. Generally, they play a role and bear responsibility for delivering healthcare services in Malaysia across promotional, preventive, curative, and rehabilitative fields.

The services of Assistant Medical Officers in the Ministry of Health Malaysia are divided into two main programs: the Public Health Program, focused on health clinics, and the Medical Program, which operates in facilities such as hospitals and medical institutions.

In the Public Health Program, Assistant Medical Officers are involved in delivering services across four areas: Primary Health Care, Family Health, Infectious Disease Health, and Non-Communicable Disease Health. In the Medical Program or secondary services, they provide clinical and supervisory tasks including pre-hospital care, emergency care, referrals to various specialist and subspecialist services, and forensic medicine. Besides clinical duties, Assistant Medical Officers are also involved in clinical governance in line with activities at the Ministry of Health Malaysia. This encompasses six (6) core programs: the Clinical Effectiveness and Audit Program, the Patient/ Service User and Community Engagement Program, the Risk Management and Patient Safety Program, the Staffing and Workforce Management Program, the Service Improvement Program, and the Learning and Information Sharing Program.

A. PUBLIC HEALTH PROGRAM

INTRODUCTION TO PUBLIC HEALTH PROGRAM

Assistant Medical Officers play a crucial role as middle-level care practitioners, encompassing aspects of health promotion, risk factor detection and prevention, treatment, rehabilitation, and palliative care, tailored to age-specific needs to achieve good health standards, prevent disease occurrence and spread, and encourage positive attitude and lifestyle changes.[1]

AMOs are responsible for activities related to the control and prevention of infectious diseases, including emerging diseases, disease outbreaks, non-communicable diseases, disasters, and other events that can threaten public health. [1]

AMOs play an important role in delivering primary healthcare, which includes five components: wellness, illness treatment, emergencies, clinical support, and health and clinical information management. Services provided are comprehensive, covering all age groups from birth to end of life through various public health facilities. This includes monitoring the health status of community members through wellness programs and patient treatments to ensure continuous healthcare. [1]

AMOs provide health services at facilities under the Ministry of Health Malaysia (MOH) as well as at institutions and agencies outside the MOH administration. [1]

SCOPE OF DUTIES AND RESPONSIBILITIES IN PUBLIC HEALTH

Assistant Medical Officers are responsible for providing health services within the established scope to all community groups. Their tasks include health promotion, health status screening, interventions, treatment, and rehabilitation for patients, optimizing care for individuals, groups, or community clusters in terms of physical, mental, and social health through services such as: [1]

i. Primary Health Care
ii. Family Health
iii. Control of Infectious Disease and Non-Communicable Diseases

Assistant Medical Officers in Public Health are responsible for:

1. Implementing interventions for individuals at risk and with health issues, either pharmacologically or non-pharmacologically.[6] Cases requiring further treatment will be referred to Medical Officers or relevant health professionals.[2,3&4]
2. Providing treatment for acute and chronic cases and for those needing follow-up care. Complex cases and missed treatments will be referred to Medical Officers or Health Professionals for continuity of patient care.[2,3&4]
3. Administering treatment and conducting diagnostic and clinical procedures according to the established scope.[1]
4. Training community members directly involved in the healthcare of family members and communities to ensure comprehensive and holistic care.[8]
5. Coordinating health programs and activities involving the community and Non-Governmental Organisations (NGOs).[1]
6. Making initial referrals of infectious disease cases to Medical Officers for prompt control and prevention actions.[2,3&4]
7. Ensuring facility preparedness, conducting symptom screenings, mobilising patients, monitoring decontamination processes, etc., at screening and vaccination centres for screening programs and infectious disease control.[18]
8. Participating in awareness and advocacy activities regarding the prevention of abuse and domestic violence, as well as services like the One Stop Crisis Centre (OSCC) and Suspected Child Abuse and Neglect (SCAN).[1]
9. Providing emergency services, including emergency and trauma treatment, pre-hospital and ambulance services, and disaster management within clinic operational areas.[5]
10. Performing on-call duties after clinic operating hours and providing coverage through medical protection teams.[5,7]
11. Offering mobile clinic services delivered via land, water, and air to communities, especially in rural areas.[13]
12. Collaborating with community groups in smart partnerships, including private sectors, NGOs, and statutory bodies, to promote their participation in healthcare.[1]

References:

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[16]*Bahagian Pembangunan Kesihatan Keluarga. (2019). Garis Panduan Perkhidmatan Penjagaan Luka Di Fasiliti Kesihatan Primer. Kementerian Kesihatan Malaysia.*
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B. MEDICAL PROGRAM

1. EMERGENCY MEDICINE AND TRAUMA SERVICES

Assistant Medical Officers in Emergency Medicine and Trauma Services are responsible for the following roles:

1.1. TRIAGE ZONE

1.1.1. Primary Triage

Conduct initial screening to determine the severity and infectivity of the patient's condition and provide appropriate early interventions before directing the patient to the relevant treatment zone.[1,2]

1.1.2. Secondary Triage

Reassess the severity and infectivity based on the patient's history and complete vital signs, provide appropriate early interventions, and then direct the patient to the appropriate treatment zone. [1,2]

1.2. ASTHMA TREATMENT ZONE

Conduct examinations and assess the severity of asthma in patients, provide initial treatment, and reassess the patient after treatment. Continuous monitoring is performed to determine the need for ongoing treatment or to refer the patient to a Medical Officer for further management. [1,2]

1.3. NON-CRITICAL ZONE

Reassess non-critical patients to detect signs and symptoms. Perform physical examinations, including vital signs, diagnostic tests, specimen collection, preparation and administration of medication, and provide appropriate treatment/intervention.

Assistant Medical Officers also conduct surveillance triage in the waiting area to ensure continuous monitoring of patients. [1,2]

1.4. SEMI-CRITICAL ZONE

Reassess semi-critical patients to detect signs and symptoms. Perform physical examinations, including vital signs, diagnostic tests, specimen collection, preparation and administration of medication, and provide appropriate treatment/intervention.[1,2]

1.5. CRITICAL ZONE

Perform resuscitation, early interventions, and stabilise the condition of critical patients. Conduct physical examinations, including vital signs, diagnostic tests, specimen collection, preparation and administration of medication, provide appropriate treatment/interventions, and handle specific equipment (invasive/non-invasive).[1,2]

1.6. DECONTAMINATION AND ISOLATION ZONE

Perform "dry or wet decontamination" based on the patient's condition while wearing appropriate Personal Protective Equipment (PPE). Subsequently, conduct examinations and provide appropriate early treatment.[1,2]

1.7. ONE STOP CRISIS CENTER (OSCC)

Directly involved in the management of OSCC cases such as molestation, rape, sodomy, abuse, and domestic violence, and handle OSCC case specimens according to established guidelines.[3]

1.8. PROCEDURE ROOM

Responsible for processes before, during, and after procedures, including providing health education to patients. Procedures performed include toilet and suturing, incision and drainage, dressing, catheter bladder drainage (CBD), foreign body removal, eye irrigation, and others.[1,2]

1.9. POINT OF CARE TESTING (POCT)

Perform medical diagnostic tests, interpret, and conduct initial analysis of test results before referring to a Medical Officer for further action. Ensure diagnostic equipment and machines are always in a ready-to-use condition.[4]

1.10. OBSERVATION WARD

Perform special clinical procedures and monitor nursing reports on patients prepared by Nurses in the Observation Ward.[1]

1.11. RESPIRATORY AND HEMODYNAMIC UNIT

Operate respiratory support equipment and related medical devices, adjusting parameters according to current standard requirements.[5]

1.12. PRE-HOSPITAL CARE AND AMBULANCE SERVICES (PHCAS)

1.12.1. Emergency Call Management Services (999)

a. Handling emergency calls through the existing system or direct line and assessing the priority level of the call.[6,7]
b. Providing Dispatch Life Support (DLS) pre-arrival instructions to the caller to ensure the patient receives early assistance before the ambulance response team arrives.[7]
c. Managing and activating the ambulance response team using the Geographical Information System (GIS).

1.12.2. Emergency Ambulance Services

a. Being on standby to receive assignments and act as the team leader of the emergency ambulance responder team.[6]
b. Conducting ambulance inspections and handling related equipment to ensure they function well and are ready for use and reporting any damage to superiors.
c. Performing initial assessment and care, making clinical interventions, conducting continuous monitoring, documenting findings, and communicating with the Emergency Medical Call Center.[7]

1.12.3. Interfacility and Intrafacility Ambulance Services

a. Managing ambulance requests according to needs and providing the appropriate ambulance.[7,8]
b. Conducting patient assessments, clinical interventions, continuous monitoring, documenting findings, and reporting to the Emergency Medical Call Centre when necessary.[7,8]
c. Handling related equipment to ensure it functions well and is ready for use.

1.12.4. Critically Ill Patient Escort & Retrieval Services

a. Performing assessments, initial care, resuscitation, and monitoring of the patient before, during, and after the transfer.
b. Documenting and reporting the patient's condition to the Emergency Medical Call Centre.[7,8]

1.12.5. Medical Standby Team Services

a. Managing requests, ensuring site visit activities, and conducting risk analysis.[10]
b. Preparing a fully equipped team and equipment based on the risk assessment.
c. Conducting assessments and initial care of protected individuals, documenting clinical findings, and reporting to the Emergency Medical Call Centre.
d. Preparing reports for each medical protection activity.

1.12.6. Disaster Management and Mass Casualty Incident Services

a. Acting as a reconnaissance and support team at disaster/incident locations according to established guidelines.
b. Serving as a Triage Officer, Communication Officer, Medical Search and Rescue Officer, and Liaison Officer. The Assistant Medical Officer

will also perform duties in the Casualty Collecting Area and Disaster Clinical Zones and carry out clinical tasks related to patient care.

c. Recording assets, victims, human resources, or any important information during disaster/incident operations and ensuring the safety of patients, the team, and the assets used during disaster operations.[9]

References:

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[2]Assistant Medical Officer Service Section, Medical Practice Division. (2023). Standard Practice Guidelines for Assistant Medical Officer in Emergency Medicine and Trauma Services. Ministry of Health Malaysia.
[3]Medical Development Division. (2015). One Stop Crisis Center: Policy and Guidelines for Hospitals. Ministry of Health Malaysia.
[4]Medical Development Division. (2012). National Point of Care Testing (POCT) Policy and Guidelines. Ministry of Health Malaysia.
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[10]Kementerian Kesihatan Malaysia. (2007). Pekeliling Ketua Pengarah Kesihatan Malaysia Bil: 2/2007 Liputan Pasukan Perlindungan Perubatan Dan Kesihatan Kementerian Kesihatan Malaysia.

2. FORENSIC MEDICINE SERVICES

Assistant Medical Officers in Forensic Medicine Services are responsible for the following roles:

2.1. Recording and carrying out the processes of receiving, storing, identifying, and handing over bodies and body parts to relatives or authorised parties.[1]
2.2. Conducting regular inspections and recording the temperature of the body storage refrigerator to ensure it is functioning properly and remains in a state of readiness.[1]
2.3. Assisting Medical Officers and Forensic Pathologists in procedures such as Postmortem, Clinical Forensic Examination, Crime Scene Investigation, Anthropology, Exhumation, Organ Harvesting, and Disaster Victim Identification.[1]
2.4. Managing examination rooms and equipment according to established guidelines.[1]
2.5. Handling all processes related to the preparation, collection, recording, and storage of Forensic Photography safely and in accordance with established guidelines.[1]
2.6. Managing specimens according to the Chain of Custody method during Specimen Medicolegal Handling procedures.[1]

Reference:

[1]Medical Development Division. (2012). Standard Operating Procedures of Forensic Medicine Services. Ministry of Health Malaysia.

3. ANAESTHESIA AND CRITICAL CARE SERVICES

Assistant Medical Officers in the Anaesthesia and Critical Care Services are responsible for the following roles:

3.1 Anaesthesia

3.1.1 Perform or assist with anaesthesia procedures in and out of the operating theatre for surgical and diagnostic purposes according to the latest standard practice guidelines.[1,3,5]

3.1.2 Prepare patients, equipment, and medications before, during, and after general anaesthesia, local anaesthesia, and specialised procedures.[1,3]

3.1.3 Manage Anaesthesiology Clinics by screening patients scheduled for elective surgeries and providing appointments as needed.[1]

3.1.4 Assist Medical Officers / Specialists with patient and equipment preparation before, during, and after procedures for chronic pain patients in Chronic Pain Clinics and Operating Rooms.

3.1.5 Perform inspection, calibration, and operation of related equipment to ensure proper functionality and readiness.[1,3,5]

3.1.6 Carry out cold sterilisation activities for all small equipment that cannot be autoclaved.[1,3]

3.1.7 Ensure that patients and equipment are in good and safe condition before, during, and after intra / inter-hospital transfer or movement.[1,4,5]

3.2 Peri Anaesthesia

3.2.1 Assist with the administration of anaesthesia in and out of the operating room for surgical and diagnostic cases according to current procedures and guidelines.[2,3]

3.2.2 Assist Anaesthesiologists and Medical Officers in preparing patients, equipment, and medications before, during, and after general anaesthesia, local anaesthesia, and special procedures.[2,3,5]

3.2.3 Operate related equipment to ensure proper functionality and readiness.[2,3]

3.2.4 Carry out reprocessing and cold sterilisation activities of contaminated equipment that cannot be autoclaved to prevent cross-contamination.[2,3]

3.3 Critical Care

3.3.1 Provide ventilator support and performing clinical procedures in the Critical Care Unit and wards according to current procedures and guidelines.[2,3,5]

3.3.2 Prepare patients, respiratory, and hemodynamic equipment before, during, and after routine and special clinical procedures.[2,5]

3.3.3 Perform reprocessing and cold sterilisation activities of contaminated equipment that cannot be autoclaved to prevent cross-contamination.[2,3]

3.3.4 Perform inspection, maintenance, calibration, and operation of related equipment to ensure proper functionality and readiness.[2,3,5]

3.3.5 Ensure that patients and equipment are in good and safe condition before, during, and after intra / inter-hospital transfer or movement.[2,4,5]

References:

[1]Assistant Medical Officers Services, Section Medical Practice Division. (2024). *Standard Practice Guidelines Assistant Medical Officers in Anaesthesiology and Intensive Care Services for Sabah and Sarawak-Anaesthesia Technologist (AT).* Ministry of Health Malaysia.
[2]Assistant Medical Officers Services, Section Medical Practice Division. (2022). *Standard Practice Guidelines Assistant Medical Officers in Anaesthesia & Intensive Care Services: Anaesthetic Assistant & Technologists (AAT) Intensive Care Technologists (ICT).* Ministry of Health Malaysia.
[3]Medical Care Quality Section, Medical Development Division. (2018). *Policies and Procedures on Infection Prevention and Control (3rd ed).* Ministry of Health Malaysia.
[4]College of Anaesthesiologists, Academy of Medicine of Malaysia. (2016). *Recommendations of Minimum Standards for Inter-Facility Transport of the Critically Ill Patients.* Ministry of Health Malaysia.
[5]Medical Development Division. (2013). *Anaesthesia & Intensive Care Service Operational Policy (2nd ed).* Ministry of Health Malaysia.

4. NUCLEAR MEDICINE SERVICES

Assistant Medical Officers in Nuclear Medicine Services are responsible for the following roles:

4.1 Conducting case screenings based on priority and scheduling appointments as directed by Medical Officers or Specialists.

4.2 Performing tasks to review completed application forms for Thyroid Cancer, Hyperthyroidism treatment, radionuclide studies/imaging, and Positron Emission Tomography-Computed Tomography (PET-CT) imaging, and then scheduling appointments as needed.[3]

4.3 Providing pre-treatment counselling for hyperthyroidism and thyroid cancer patients before Radioiodine therapy.[3]

4.4 Conducting pregnancy screening tests (Urine Pregnancy Test) on patients as per the established procedure before imaging and Radioiodine treatment.[1,2]

4.5 Administering sedative medications, diuretic agents, radioactive material injections, and Intramuscular (IM) Thyrogen injections to patients as instructed.[3]

4.6 Performing Physical & Pharmacological Stress Tests with Medical Officers/Specialists before cardiac imaging.[2]

4.7 Carrying out imaging using Gamma Cameras, Single Photon Emission Computed Tomography-Computed Tomography (SPECT-CT), Positron Emission Tomography-Computed Tomography (PET-CT), and Cardiac Dedicated, as well as procedures utilising Technegas & Gamma Counter/Well Counter. [2,3]

4.8 Processing data and images for reporting by the Medical Officers/Specialists. [2]

4.9 Handling medical equipment to ensure it functions well and is ready for use. [2,3]

References:

[1]Goverment of Malaysia. (1984). Atomic Energy Licensing Act 1984 (Act304).
[2]Medical Astantsistant Board. (2008). Standard Operating Procedures for Assistant Medical Officer in Nuclear Medicine. Ministry of Health Malaysia.
[3]Kementerian Kesihatan Malaysia. (2017). Pekeliling Keperluan Latihan Untuk Personel Dalam Perkhidmatan Perubatan Nuklear Di Bawah Akta Perlesenan Tenaga Atom 1984 (atau Akta 304).

5. GENERAL MEDICAL SERVICES

Assistant Medical Officers in the General Medical Services are responsible for the following roles:

5.1 Conducting case screenings based on priority and scheduling appointments as directed by Medical Officers or Specialists.

5.2 Ensuring medical equipment is functioning properly and ready for use.[1,2,3,4,5]

5.3 Performing non-complex medical procedures such as administering injections, collecting body fluid samples, and preparing and dispensing medication as instructed by Medical Officers or Specialists.[1,2,3,4,5]

5.4 Assessing patients' initial conditions, including taking medical histories, conducting physical examinations, and recording vital signs.[1,2,3,4,5]

5.5 Assisting Medical Officers or Specialists in planning and implementing patient treatment plans to ensure continuous care.[1,2,3,4,5]

5.6 Providing patients and their families with health education, treatment information, and disease prevention guidance.[1,2,3,4,5]

5.7 Document medical information accurately, including treatment progress and responses to therapy in patient records.[1,2,3,4,5]

5.8 OUTPATIENT PARENTERAL ANTIMICROBIAL THERAPY (OPAT)

5.8.1 Conduct psychosocial assessments and evaluate intravenous access, such as intravenous cannulation, scalp vein catheterization, and peripheral venous catheters (Midline Catheter / Peripheral Intravenous Central Catheter), for patients referred to the OPAT unit by a Medical Officer or Specialist.[3]

5.8.2 Administer intravenous antimicrobial medications safely to patients according to prescriptions by Medical Officers or Specialists.

5.8.3 Provide health education to patients and their families about antimicrobial use, signs of infections, and intravenous access care.

5.8.4 Regularly assess and document the patient's health status, allergic reactions, signs of infection, and antimicrobial side effects.

5.8.5 Refer patients to a Medical Officer or Specialist if their health condition becomes unstable.

References:

[1]Ministry of Health Malaysia (2024) Guidelines for Outpatient Parenteral Antimicrobial Therapy (OPAT) Services in Hospitals under the Ministry of Health Malaysia (2024).
References:
[1]Medical Development Division. (2016). *Gastroenterology Services Operational Policy.* Ministry of Health Malaysia.
[2]Medical Assistants Board. (2020). *Standard Operating Procedure for Assistant Medical Officers in Haemodialysis (2nd ed).* Ministry of Health Malaysia.
[3]Bahagian Perkembangan (2024) *Garis Panduan Perkhidmatan OutPatient Parenteral Antimicrobial Therapy (OPAT) Di Hospital Kementerian Kesihatan Malaysia, Edisi Pertama.*
[4]Medical Assistants Board. (2006). *Standard Operating Procedures for Medical Assistants in Cardiology.* Ministry of Health Malaysia.
[5]Medical Development Division. (2021). *Clinical Practice Guidelines Management of Tuberculosis (4th ed).* Ministry of Health Malaysia.

6. RESPIRATORY MEDICINE SERVICES

Assistant Medical Officers in Respiratory Medical Services are responsible for the following roles:

6.1 Conducting case screenings based on priority and scheduling appointments according to the dates directed by the Medical Officers/Specialists.
6.2 Handling medical equipment to ensure it functions well and is ready for use.
6.3 Performing procedures for Lung Function Tests, Respiratory Sleep Disorder management, Tuberculosis management, and the Home Non-Invasive Ventilator (Home NIV) Program.
6.4 Assisting the Medical Officers/Specialists in Thoracic Endoscopy procedures and providing patient care before and after the procedure.
6.5 Analysing and reporting test results to the Medical Officers/Specialists.
6.6 Providing counselling to Tuberculosis patients and close contacts, as well as offering health education to them.

References:

[1]Graham, B. L., Steenbruggen, I., Miller, M. R., Barjaktarevic, I. Z., Cooper, B. G., Hall, G. L., Hallstrand, T. S., Kaminsky, D. A., McCarthy, K., McCormack, M. C., Oropez, C. E., Rosenfeld, M., Stanojevic, S., Swanney, M. P., & Thompson, B. R. (2019). Standardization of Spirometry 2019 Update. An Official American Thoracic Society and European Respiratory Society Technical Statement. American journal of respiratory and critical care medicine, 200(8), e70–e88. https://doi.org/10.1164/rccm.201908-1590ST
[2]Medical Development Division. (2021). Clinical Practice Guidelines Management Of Tuberculosis (4th ed). Ministry of Health Malaysia.
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[4]American Academy of Sleep Medicine. (2023) The AASM Manual for the Scoring of Sleep and Associated Events Rules, Terminology and Technical Specifications (3rd ver)
[5]Malaysian Thoracic Society. (2023). Basic Lung Function Test.

7. CARDIOLOGY SERVICES

Assistant Medical Officers in Cardiology Services are responsible for the following roles:

7.1 Conducting case screenings according to priority and scheduling appointments as directed by Medical Officers / Specialists.

7.2 Performing cardiac diagnostic procedures such as Electrocardiography (ECG), Exercise Stress Test* (Treadmill), Dobutamine Stress Echocardiography (Pharmacological), Exercise Stress Echocardiography, Ambulatory Electrocardiography Monitoring* (Holter Test), Ambulatory Blood Pressure Monitoring (ABPM), Tilt Table Test, and Echocardiography according to the established Standard Operating Procedures. Echocardiography procedures include Transthoracic Echocardiography (TTE 2D Echo), Advanced Echocardiography (3D, TDI, Strain Study), and Portable Echocardiography.

7.3 Managing medical devices to ensure it functions properly and is ready for use.

7.4 Assisting specialists with Transoesophageal Echocardiography (TOE).

7.5 Managing the interrogation, programming, and reprogramming of implantable devices, recording and reporting any abnormalities to the Medical Officer / Specialist.

7.6 Conducting hemodynamic status assessments for paediatric patients and related invasive procedures in the Invasive Cardiology Laboratory, such as Transducer Set-up & Calibration, and notify the Specialist of any abnormalities.

7.7 Assisting in invasive procedures such as Diagnostic Angiography (Coronary/Peripheral Angiogram), Cardiac Catheterization (Left & Right Heart Catheterization), Cardiovascular Implantable Electronic Devices (CIED), Interventional procedures (Percutaneous Coronary Intervention, Device Closure, Percutaneous Peripheral Angioplasty, and Structural Heart Intervention), Electrophysiology Study & Radiofrequency Ablation.

7.8 Operating adjunctive invasive procedure machines and evaluating patient conditions, and assisting with procedures such as Intra-Aortic Balloon Pump (IABP), Intravascular Ultrasound (IVUS), Optical Coherence Tomography (OCT), Resting Flow Reserve (RFR), Fractional Flow Reserve** (FFR/iFR), Quantification Flow Reserve (QFR), Transcatheter Aortic Valve Implantation (TAVI), Rotational Atherectomy (PTCRA), Left Atrial Appendage Occluder (Watchman).

References:

[1]Medical Assistants Board. (2006). *Standard Operating Procedures for Medical Assistants in Cardiology. Ministry of Health Malaysia.*

[2]National Heart Association of Malaysia. (2018). *NHAM Transthoracic Echo Guide 2018.*

[3]Reményi, B., Wilson, N., Steer, A., Ferreira, B., Kado, J., Kumar, K., Lawrenson, J., Maguire, G., Marijon, E., Mirabel, M., Mocumbi, A. O., Mota, C., Paar, J., Saxena, A., Scheel, J., Stirling, J., Viali, S., Balekundri, V. I., Wheaton, G., Zühlke, L., … Carapetis, J. (2012). World Heart Federation criteria for echocardiographic diagnosis of rheumatic heart disease--an evidence-based guideline. *Nature reviews. Cardiology, 9(5), 297–309.* https://doi.org/10.1038/nrcardio.2012.7

8. PAEDIATRIC SERVICES

Assistant Medical Officers in Paediatric Services are responsible for the following roles:

8.1 Conducting case screenings according to priority and scheduling appointments as directed by Medical Officers / Specialists.[1]

8.2 Operating medical equipment for invasive and non-invasive procedures for diagnostic and treatment purposes in paediatric patients, such as Cooling Therapy machines, High-Frequency Oscillatory Ventilation (HFOV) machines, Amplitude-integrated Electroencephalography (aEEG) machines, Nitric Oxide Delivery System, BiPAP/BPAP, CPAP, and oxygen concentrators in relevant locations.

8.3 Handling the transfer of critically ill patients to external and internal hospital facilities. [1]

8.4 Performing all Echocardiography procedures on patients in the ward as directed by the Paediatric Specialist.

Reference:

[1]Medical Development Division. (2012). Paediatric Services Operational Policy. Ministry of Health Malaysia.

9. PAEDIATRIC CARDIOLOGY SERVICES

Assistant Medical Officers in Paediatric Cardiology Services are responsible for the following roles:

9.1 Paediatric Cardiology Clinic

9.1.1 Conducting case screenings according to priority and scheduling appointments as directed by Medical Officers / Specialists.

9.1.2 Performing cardiac diagnostic procedures such as Electrocardiography (ECG), Exercise Stress Test* (Treadmill), Ambulatory Electrocardiography Monitoring* (Holter Test), and Echocardiography according to the established Standard Operating Procedures. Echocardiography procedures include Transthoracic Echocardiography (TTE 2D Echo), Advanced Echocardiography (3D, TDI, Strain Study), and Portable Echocardiography.

9.1.3 Managing medical devices to ensure it functions properly and is ready for use.

9.1.4 Assisting specialists in Transoesophageal Echocardiography (TOE) and Epicardial Echocardiography.

9.2 Invasive Cardiology Laboratory (ICL) – Paediatrics

9.2.1 Hemodynamic Intracardiac Monitoring & Invasive Procedure

9.2.1.1 Conducting hemodynamic status assessments for pediatric patients and related invasive procedures in the Invasive Cardiology Laboratory, such as Transducer Set-up & Calibration, and notifying the Specialist of any abnormalities.

9.2.1.2 Assisting with procedures including Diagnostic Angiography (Structural Angiogram), Catheterization (Left & Right Heart Catheterization), and Interventional procedures (Device Closure, Percutaneous Transluminal Balloon Valvuloplasty of Aortic/Pulmonary Valve, Patent Ductus Arteriosus Stenting, Right Ventricle Outlet Track Stenting, Transluminal Pulmonary Valve Implantation, Percutaneous Coronary Intervention).

9.2.2 Electrophysiology Study & Radiofrequency Ablation

9.2.2.1 Operating the Electrophysiology system software (2D Conventional & 3D Carto Mapping System) during procedures performed by Pediatric Cardiology Specialists.

9.2.2.2 Interpreting types of cardiac arrhythmias with the Electrophysiology Specialist using Electrocardiography (ECG) and Intracardiac Electrogram (EGM) during procedures.

9.3 Pediatric Cardiology Intensive Care Unit (PCICU), High Dependency Unit (HDU), and Pediatric Cardiology Ward

9.3.1 Operating specialized medical equipment for patients, such as Cooling Therapy machines, High-Frequency Oscillatory Ventilation (HFOV) machines, Amplitude-integrated Electroencephalography (aEEG) machines, Nitric Oxide Delivery System, BiPAP/BPAP, CPAP, and oxygen concentrators in relevant locations.

9.3.2 Handling the transfer of critically ill patients to external and internal hospital facilities.

9.3.3 Performing 2D Echocardiography procedures in the ward, including Screening, pre- and post-surgery, as directed by the Pediatric Cardiologist.

Reference:

[1]Medical Assistants Board. (2006). Standard Operating Procedures for Medical Assistants in Cardiology. Ministry of Health Malaysia.

10. NEPHROLOGY SERVICES

Assistant Medical Officers in Nephrology Services are responsible for the following roles:

10.1 Perform initial screening tasks for new referral cases and schedule clinic appointment dates according to needs (urgent / non-urgent) as directed by the Medical Officer / Specialist.

10.2 Carry out service activities in the Nephrology Clinic such as collecting blood for diagnostic and clinical tests, analysing results, and reporting them to the Medical Officer / Specialist.

10.3 Provide counselling on Kidney Replacement Therapy (KRT) options to chronic kidney patients nearing End-Stage Renal Failure (ESRF).

10.4 Perform KRT procedures, including Continuous Kidney Replacement Therapy (CKRT) such as Hemodialysis[1,2] and Peritoneal Dialysis[3], as well as safely administering Extracorporeal Blood Purification treatment following established standards.

10.5 Operate haemodialysis machines during KRT and CKRT to ensure they are in good and safe working condition.

10.6 Assess vascular access before, during, and after dialysis treatment according to the prescribed/scheduled plan.[1]

10.7 Perform diagnostic procedures to evaluate the effectiveness of dialysis treatment, such as Urea Kinetic Monitoring (Kt/V), Dilution Ultrasound Measurement (Transonic), Body Composition Monitoring (BCM), and other procedures.[1]

10.8 Assist in preparing patients for kidney transplant programs, whether for living-related transplants or deceased donors, including recipient and donor workup. After kidney transplants, perform Therapeutic Drug Monitoring (TDM) and other procedures.

10.9 Document patient data into applications such as the National Renal Registry (eNRR) and the Malaysian Kidney Allocation System (MyKas), and participate in quality management monitoring programs in the Nephrology Department.

References:

[1]Medical Assistants Board. (2020). Standard Operating Procedure for Assistant Medical Officers in Haemodialysis (2nd ed). Ministry of Health Malaysia.
[2]Malaysian Society of Nephrology. (2018) The National Haemodialysis Quality Standards. Ministry of Health Malaysia.
[3]Malaysian Society of Nephrology. (2020) National Peritoneal Dialysis Quality Standards. Ministry of Health Malaysia.

11. PSYCHIATRIC AND MENTAL HEALTH SERVICES

Assistant Medical Officers in Psychiatric and Mental Health Services are responsible for the following roles:

11.1 Conducting screenings for new cases according to priority and scheduling appointments based on the dates directed by the Medical Officers/Specialists.

11.2 Performing early intervention by conducting Mental Health Triage, History Taking, Mental State Examination (MSE), and subsequent diagnostic tests at the Psychiatric and Mental Health Specialist Clinic.[1,3]

11.3 Managing psychiatric cases for the Psychiatric Community Team (PKP) by handling acute and assertive cases, such as visits according to the predetermined Level of Care, tracking defaulter cases, organising Family Intervention Programs, conducting Crisis Intervention, providing Psychoeducation to patients and families, and implementing the Medication Adherence Program for the Methadone Program. [1,3]

11.4 Providing treatment, employment support, and Psychosocial Rehabilitation to psychiatric patients within the local community at the Community Mental Health Centre (MENTARI). [1,3]

11.5 Handling admissions and discharges, care, treatment, and rehabilitation of psychiatric inpatients. [2,3]

11.6 Preparing and managing patients before, during, and after undergoing Electroconvulsive Therapy (ECT). [1,3]

11.7 Promoting Mental Health to the community and educating them to practise good mental health. [2]

11.8 Joining the Psychological First Aid (PFA) Team during crises/ disasters. [2]

References:

[1]Medical Assistants Board. (2016). Standard Operating Procedures For Assistants Medical Officer in Psychiatry (2nd ed). Ministry of Health Malaysia.
[2]Goverment of Malaysia. (2010). Mental Health Regulations 2010.
[3]Goverment of Malaysia. (2001). Mental Health Act 2001.

12. NEUROPHYSIOLOGY SERVICES

Assistant Medical Officers in Neurophysiology Services are responsible for the following roles:

12.1 Conducting case screenings based on priority and scheduling appointments as directed by Medical Officers or Specialists.

12.2 Conduct brief patient history intake, vital sign measurements, and examination of specific body parts according to the neurological chart. Perform diagnostic baseline investigations as directed and report the examination results to the Neurology Specialist to assist in scheduling neurophysiology-related appointments.[1,2]

12.3 Perform neurophysiology procedures such as Electroencephalogram (EEG), Visual Evoked Potential (VEP), Brainstem Auditory Evoked Potential (BAEP), Somatosensory Evoked Potential (SSEP), Video Telemetry Recording (VTR), Polysomnography (PSG), Transcranial Doppler (TCD), Autonomic Function Test (AFT), Transcranial Magnetic Stimulation (TMS), Electro Cerebral Inactivity (ECI), and Nerve Conduction Study (NCS).[1,2]

12.4 Prepare and operate clinical and technical equipment for Electromyogram (EMG) procedures.

12.5 Ensure that neurodiagnostic equipment is in good condition and meets the required standards so that neurodiagnostic procedures are accurate, safe, and comply with existing regulations.

12.6 Document and report all findings from the tests performed to the Neurology Specialist.[1,2]

References:

[1]Medical Assistants Board. (2012). Standard Operating Procedures for Assistant Medical Officer in Clinical Neurophysiology (2nd ed). Ministry of Health Malaysia.
[2]Medical Assistants Board. (2008).Clinical Neurophysiology Procedures Protocol for Assistant Medical Officer. Ministry of Health Malaysia.

13. DERMATOLOGY SERVICES

Assistant Medical Officers in Dermatology Services are responsible for the following roles:

13.1 Manage Dermatology Specialist Clinics, Genito-Urinary Medicine Clinics, and Leprosy Clinics (Hansen) by screening new patients and providing appointments as needed.
13.2 Prepare patients and equipment before, during, and after invasive or non-invasive procedures to obtain diagnoses and treatment at Dermatology Specialist Clinics and Genito-Urinary Medicine Clinics.
13.3 Perform slit skin smear procedures, staining, reading slides, and reporting results at Leprosy Clinics (Hansen).[1]
13.4 Conduct regular examinations and monitoring and detecting cases of relapse during the surveillance period.
13.5 Provide counselling and health education sessions, reporting notifications of new cases, and participating in the National Leprosy Control Program (MyKUSTA).
13.6 Ensure that all medical equipment is maintained and ready for use in invasive and non-invasive procedures.

Reference:

[1]Medical Development Division. (2016). *Dermatology Services Operational Policy*. Ministry Of Health Malaysia
[2]Bahagian Kawalan Penyakit. (2014). *Manual Pengurusan Kusta Kebangsaan (Edisi Kedua)*. Kementerian Kesihatan Malaysia.

14. GENERAL SURGERY SERVICES

Assistant Medical Officer in General Surgery Services are responsible for the following roles:

14.1 Conducting case screening according to priority and scheduling appointments as directed by the Medical Officer / Specialist.[1]
14.2 Operating relevant medical equipment to ensure it is functioning properly and ready for use.[1]
14.3 Assisting the Medical Officer / Specialist in procedures such as Endoanal / Rectal Ultrasound.[1]
14.4 Managing patients, equipment, and the surgical area before, during, and after procedures.
14.5 Assisting the Medical Officer in planning and implementing treatment plans for patients and ensuring continuous care.
14.6 Collecting bodily fluid samples for diagnostic purposes as directed by the Medical Officer / Specialist.
14.7 Providing information and education to patients and families about health conditions, treatments, and disease prevention.
14.8 Accurately recording medical information in patient health records, including treatment progress and responses to therapy.

References:

[1]Medical Development Division. (2018). *General Surgical Services Operational Policy.* Ministry of Health Malaysia.

15. ORTHOPAEDIC SERVICES

Assistant Medical Officers in the Orthopaedics Services are responsible for the following roles:

15.1 Conduct initial screenings on referrals of new cases and schedule clinic appointments based on urgency (urgent/non-urgent) as directed by a Medical Officer or Specialist.

15.2 Performing clinical procedures such as:

- 15.2.1 Closed Manipulation & Reduction of Fractures/Dislocations (CMR) and wound dressing.[1, 2]
- 15.2.2 Apply and remove various types of plaster casts, slabs, bandages, strapping, splints, orthoses, wedging, bivalve, trimming casts, open windows in casts, skin traction, skeletal traction, halo vests, and medical devices.[1, 2]
- 15.2.3 Remove specialised equipment such as external fixation devices, crutch field skull pins, and halo pins.[1, 2]

15.3 Assist in General and Orthopaedic Subspecialty Operating Theaters that include:

- 15.3.1 Prepare patients and position them appropriately for surgery.[1, 2]
- 15.3.2 Act as First or Second Assistant during surgery according to the guidelines.[1, 2]
- 15.3.3 Manage surgical equipment and implants (scrubbing instruments/implants for subspecialties).[1, 2]

15.4 Ensure the functionalities and readiness of medical equipment such as arthroscopy monitors, surgical microscopes, tourniquet machines, cast cutters, surgical/ward bed accessories, and others.[1, 2]

References:

[1]Medical Assistants Board. (2006). *Standard Operating Procedures For Medical Assistants in Orthopaedic*. Ministry of Health Malaysia.
[2]Assistant Medical Officer Service Section, Medical Practice Division. (2024). *Standard Practice Guidelines for Assistant Medical Officer in Orthopaedic Services.* Ministry of Health Malaysia.

16. OBSTETRICS & GYNAECOLOGY SERVICES

Assistant Medical Officers in the Obstetrics & Gynaecology (O&G) services are responsible for the following roles:

16.1 Conduct initial screenings on referrals of new cases and schedule clinic appointments based on urgency (urgent/non-urgent) as directed by a Medical Officer or Specialist.

16.2 Operate ultrasound machines, conduct ultrasound examinations, record and report results to Medical Officers or Specialists, and ensure the ultrasound machines are well-maintained and functional.

16.3 Assist Maternal Fetal Medical Officers/Specialists during invasive procedures for diagnostic and treatment purposes, such as Amniocentesis, Amnioreduction, Amnioinfusion, and other related procedures.

16.4 Conduct Early Pregnancy Assessment (EPAU), including screening referrals, history taking, vital signs, abdominal examinations, diagnostic scanning, speculum and vaginal examinations, and report results to Medical Officers or Specialists.

16.5 Perform procedures like Removal of Implanon, Transvaginal Scans for follicular tracking, Intrauterine Insemination (IUI) for preparation and analysis of sperm, Chemoport Infusion, High Vaginal Swab (HVS), Pap Smear, Endometrial Pipelle Sampling, and Urodynamic Study for urinary incontinence as instructed by Medical Officers/Specialists.

16.6 Assist procedures like Manual Vacuum Aspiration (MVA), Implanon insertion, IUI, Laparoscopy, Hysteroscopy, and Colposcopy.

16.7 Act as the First/Second Assistant in surgeries following guidelines and protocols.[1]

16.8 Manage relevant medical equipment to ensure proper functioning and readiness for use.

References:

[1]Medical Development Division. (2010). *Operational Policy in Obstetrics and Gynaecology Services.* Ministry of Health Malaysia.

17. OPHTHALMOLOGY SERVICES

Assistant Medical Officers in Ophthalmology Services are responsible for the following roles:

17.1 Conduct screenings to determine routine appointments or urgent cases based on vision tests, Relative Afferent Pupillary Defect (RAPD) tests, and pupil dilation as directed by a Medical Officer or Specialist.[1,2]

17.2 Perform, analyse, and record non-invasive diagnostic procedures like Fundus Fluorescein Angiography (FFA), Optical Coherence Tomography (OCT), intraocular pressure measurements (contact or non-contact), Fundus Photography, Direct Ophthalmoscopy, and others, then reporting results to the Medical Officer or Specialist.[1,2]

17.3 Prepare equipment and assist in ophthalmic procedures and surgeries such as Incision & Curettage, Lacrimal Passage Syringing, Intravitreal Injections, cataract surgeries, and other procedures according to established guidelines.[2]

17.4 Serve as an Ocularist to create prosthetic eyes and provide health education on the care of artificial eyes.[2]

References:

[1]Ministry of Health Malaysia. (2017). Diabetic Retinopathy Screening (2nd ed). Training Module for Healthcare Providers. MOH Diabetic Retinopathy Screening Team.
[2]Assistant Medical Officer Service Section, Medical Practice Division. (2024). *Standard Practice Guidelines for Assistant Medical Officer in Ophthalmology Services.* Ministry of Health Malaysia.

18. OTORHINOLARYNGOLOGY (ORL) SERVICES

Assistant Medical Officers in Otorhinolaryngology (ORL) Services are responsible for the following roles:

18.1 Screen cases based on priority and schedule appointments as directed by a Medical Officer or Specialist.
18.2 Perform specialized procedures such as:
  18.2.1 Otology: Examination Under Microscope (EUM)[1], Ear Toileting[1].
  18.2.2 Rhinology: Skin Prick Test for Allergic Rhinitis cases[1].
18.3 Manage diagnostic and surgical equipment to ensure its functionalities in clinics or operating rooms.
18.4 Serve as the First/Second Assistant in otorhinolaryngology surgeries according to guidelines and procedures.
18.5 Assess patients and perform diagnostic and therapeutic procedures such as Polysomnography (PSG)[2,3] and Positive Airway Pressure (PAP).[2,3]
18.6 Document, analyze, and report Sleep Study[2,3] and Positive Airway Pressure[3] trial findings to Specialists.
18.7 Conduct neonatal hearing screenings (Universal Neonatal Hearing Screening).[4]

References:

[1]Medical Assistant Board. (2007). *Standard Operating Procedures For Assistant Medical Officer in Otorhinolaryngology*. Ministry of Health Malaysia.
[2]Otorhinolaryngology Services. (2021). *Otorhinolaryngology Sleep Service Guidelines.* Ministry of Health Malaysia.
[3]American Academy of Sleep Medicine. (2023) *The AASM Manual for the Scoring of Sleep and Associated Events Rules,* [4]*Terminology and Technical Specifications (3rd ver)*
[4]Medical Development Division. (2014). *Guidelines For Neonatal Hearing Screening.* Ministry of Health Malaysia.

19. ENDOSCOPY SERVICES

Assistant Medical Officers in Endoscopy Services are responsible for the following roles:

19.1 Screening and managing patient appointments based on referrals from clinics and wards.[1]
19.2 Managing patients before, during, and after procedures.[1]
19.3 Preparing and administering intravenous sedation injections according to the instructions of Medical Officers or Specialists.[1]
19.4 Assisting specialists during procedures in the Endoscopy Unit, including OGDS (Oesophageal Gastro-Duodenoscopy), Colonoscopy, Sigmoidoscopy, ERCP (Endoscopic Retrograde Cholangiopancreatography), Endoscopic Ultrasound, Cystoscopy, Urea Breath Test, and Manometry.[1]
19.5 Handling endoscopic equipment and accessories, including activities such as reprocessing, storage, maintenance of medical equipment, and disposal.
19.6 Managing and arranging patient disposition after procedures.[1]

Reference:

[1]Medical Development Division. (2016). *Gastroenterology Services Operational Policy*. Ministry of Health Malaysia.

20. CARDIOTHORACIC SURGERY SERVICES

Assistant Medical Officers in Cardiothoracic Surgery Services are responsible for the following roles:

20.1 Conducting case screenings according to priority and scheduling appointments as directed by Medical Officers / Specialists.

20.2 Performing Vessel Harvesting (Artery & Vein) using either conventional or endoscopic methods in the Cardiothoracic Operating Theatre according to established techniques and procedures for use in heart bypass surgeries.[1]

20.3 Assisting in surgical procedures with the Cardiothoracic Surgeon as the First or Second Assistant according to guidelines and procedures.[1]

20.4 Performing non-invasive diagnostic procedures (Perioperative Transthoracic Echocardiography, Ultrasound Duplex Venous Assessment) and clinical procedures before and after surgery, interpreting results, and reporting findings to the Medical Officer or Cardiothoracic Surgeon.[1,2,3]

20.5 Assisting with Homograft Heart procedures and conducting clinical audits on quality and infection rates.

20.6 Managing medical and non-medical equipment to ensure proper functionality and availability, such as Echocardiography machines, EchoPac System, Electrocardiogram, Portable Ultrasound, Ventilator, Mobile Fluoroscopy (C-arm), Arterial Blood Gases, and other related equipment.[3,4]

References:

[1]Medical Development Division. (2011). Cardiothoracic Surgery Services Operational Policy. Ministry of Health Malaysia.
[2]Medical Assistants Board. (2006). Standard Operating Procedures for Medical Assistants in Cardiology. Ministry of Health Malaysia.
[3]Medical Radiation Surveillance Division. (2022). Guidelines on Ultrasound Usage in Medical Practice. Ministry of Health Malaysia.
[4]Medical Development Division. (2012). National Point of Care Testing (POCT) Policy and Guidelines. Ministry of Health Malaysia.

21. CARDIOTHORACIC ANAESTHESIOLOGY AND PERFUSION SERVICES

Assistant Medical Officers in Cardiothoracic Anaesthesiology and Perfusion Services are responsible for the following roles:

21.1 Operating the Heart-Lung Machine for Open Heart Surgery and Minimally Invasive Cardiac Surgery (MIS).
21.2 Operating the Extracorporeal Membrane Oxygenation (ECMO) machine for Extracorporeal Life Support (ECLS).[1]
21.3 Operating clinical support machines such as the Intra-Aortic Balloon Pump (IABP), Cell Salvage, Temperature Management System, Bronchoscope, Cardiac Output Monitoring, Transducers, and Point of Care Testing (POCT).[2]
21.4 Operating General Anaesthesia (GA) machines for use in cardiothoracic surgeries in the Cardiothoracic Operation Theatre (COT) and Intensive Catheter Lab (ICL).
21.5 Preparing and ensuring that ventilators and Bilevel Positive Airway Pressure (BiPAP/BPAP) machines are in good and safe condition for use in the Cardiothoracic Intensive Care Unit (CICU).[3]

References:

[1]Malaysian Cardiothoracic Anaesthesiology and Perfusion Society. (2023). Guidelines For Adult Extracorporeal Membrane Oxygenation.
[2]Medical Development Division. (2012). National Point of Care Testing (POCT) Policy and Guidelines. Ministry of Health Malaysia.
[3]Medical Development Division. (2013). Anaesthesia & Intensive Care Service Operational Policy (2nd ed). Ministry of Health Malaysia.

22. PLASTIC AND RECONSTRUCTIVE SURGERY SERVICES

Assistant Medical Officers in Plastic and Reconstructive Surgery Services are responsible for the following roles:

22.1 Conducting case screenings according to priority and scheduling appointments as directed by Medical Officers / Specialists.
22.2 Operating special equipment and requirements such as Ultrasound Doppler, Vascular Doppler, Head Lamp, and Monofilament Neuropathy Screening Tool necessary for patient examinations in procedure/examination rooms, ensuring equipment is always functional.
22.3 Performing clinical procedures such as Change of Dressing, Removal of Skin Stapler, Stitch to Open, Removal of K-Wire, Back Slap, Negative Pressure Wound Therapy, Removal of Arch Bar, and others.
22.4 Performing minor surgical procedures under the supervision of Medical Officers / Specialists in the clinic.
22.5 Acting as the First Assistant in surgical procedures involving local or general anaesthesia and performing Skin Graft Mesher procedures on burn and wound patients with Medical Officers / Specialists.

References:

[1]Medical Development Division. (2018). General Surgical Services Operational Policy. Ministry of Health Malaysia.

23. HAND AND MICROSURGERY SERVICES

Assistant Medical Officer in Hand and Microsurgery Services are responsible for the following roles:

23.1 Managing equipment and supplies for emergency and elective surgeries in the operating room.
23.2 Performing repair and reattachment procedures in microsurgery, including replantation, revascularization, arterial repair for liver transplant cases, and neurovascular repairs for upper limb cases.[1]
23.3 Carrying out Closed Manipulative Reduction (CMR) under wrist/digital block for upper limb cases, applying plaster of Paris, fitting splints, wound cleaning, and providing related health education to patients.
23.4 Assisting specialists in training relevant staff for microsurgery laboratory training programs conducted within the department.

Reference:

[1]Ahmad, T. S., Ahmad, A. A., & Abdullah, S. (2021). Hand Surgery in Malaysia. Journal of hand and microsurgery, 13(1), 21–26. https://doi.org/10.1055/s-0040-1721942

24. NEUROSURGERY SERVICES

Assistant Medical Officers in Neurosurgery Services are responsible for the following roles:

24.1 Screen cases based on priority and schedule appointments as directed by the Medical Officers/Specialists.[1]
24.2 Ensure that all medical equipment used is functioning properly before, during, and after the movement or transfer of patients between or within hospitals.
24.3 Operate medical equipment in all clinical areas of the department to ensure it is in good working order and ready for use, including the Image Guided System (IGS), Intraoperative Neuro Monitoring (IONM), Arterial Blood Gases (ABG) Machine, Ventilator, and other relevant medical equipment.[2]
24.4 Act as the First or Second Assistant in the surgical team according to established guidelines and procedures.[1]

References:

[1]Medical Development Division. (2018). General Surgical Services Operational Policy. Ministry of Health Malaysia.
[2]Medical Development Division. (2012). National Point of Care Testing (POCT) Policy and Guidelines. Ministry of Health Malaysia.

25. UROLOGY SERVICES

Assistant Medical Officers in the Urology Services are responsible for the following roles:

25.1 Conducting case screenings based on priority and scheduling appointments as directed by Medical Officers or Specialists.

25.2 Preparing patients and performing procedures such as *Extracorporeal Shockwave Lithotripsy (ESWL), Uroflowmetry, Bladder Scan, Clean Intermittent Self-Catheterization (CISC), Insert or Change of Catheter Bladder Drainage, Change of Suprapubic Catheter, Change Nephrostomy Tube, Trial of Void*, administering *Hormonal Therapy* injections (Lucrin & Zoladex), Intravesical Chemotherapy, and collecting blood and urine specimens.

25.3 Assisting Medical Officers/Specialists with procedures such as *Transrectal Ultrasound Guided Prostate Biopsy* (TRUS), *Cystoscopy Examination* (CE), *Removal of Stent* (ROS), *Catheter Bladder Drainage Guided, Suprapubic Catheter insertion*, *Cystogram, Urodynamic Study* (UDS), *Retrograde Pyelogram* (RPG), *Stenting*, *Ureteroscopic Lithotripsy* (URSL), *Transurethral Resection of Bladder Tumour* (TURBT), *Transurethral Resection of the Prostate* (TURP), *Open Vesicolithotomy*, *Vesicolithotripsy*, *Retrograde Intrarenal Surgery* (RIRS), *Percutaneous Nephrolithotomy* (PCNL), *Urethroplasty, Transperineal Magnetic Resonance Imaging Fusion Biopsy*, *Partial Nephrectomy, Nephrectomy, Renal Transplant, Orchidectomy, Cystectomy, Open Radical Prostatectomy, Endoscopic Combined Intrarenal Surgery* (ECIRS) that performed in clinics, day-care centres, or operation theatre.

25.4 Acting as First/Second Assistant in surgeries following established guidelines and protocols.[1]

25.5 Ensuring that all relevant medical equipment is functioning well and ready for use.

References:

[1]Medical Development Division. (2018). *General Surgical Services Operational Policy*. Ministry of Health Malaysia.

26. VASCULAR SURGERY SERVICES

Assistant Medical Officer in the Vascular Surgery Services are responsible for the following roles:

26.1 Conducting case screenings based on priority and scheduling appointments as directed by the Medical Officer / Specialist.

26.2 Performing procedures such as Ankle Brachial Systolic Index (ABSI), Photoplethysmography (PPG), Skin Perfusion Pressure (SPP), Lymphatic Therapy, Sclerotherapy, Duplex Ultrasound Scan, and other related procedures in the vascular laboratory.

26.3 Acts as the First / Second Assistant in the Vascular Sub-Specialty Operation Theater for both open and endovascular surgery cases followed with established guidelines and procedures.

26.4 Performed Vascular Surgical Wound Care procedures such as modern dressing, vascular assessment and compression therapy.

26.5 Handling related medical equipment to ensure it operated effectively and is ready to use in clinical areas and during patient transfers or movements of inter/intra hospital.

References:

[1]Medical Development Division. (2018). *General Surgical Services Operational Policy*. Ministry of Health Malaysia.

STANDARD PRACTICE GUIDELINES

Assistant Medical Officers Services Section
Ministry Of Health, Malaysia

STANDARD PRACTICE GUIDELINES