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Kementerian Kesihatan Malaysia
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Tarikh : 29 April 2026

SEPERTI SENARAI EDARAN

YBhg. Datuk Seri/ Dato' Sri/ Datuk/ Dato' Indera / Dato'/ Datin / Tuan / Puan,

SURAT PEKELILING KETUA PENGARAH KESIHATAN MALAYSIA BIL. 14 / 2026 : PELAKSANAAN PERKHIDMATAN RAWATAN TLD (TENOFOVIR/ LAMIVUDINE/ DOLUTEGRAVIR) SEBAGAI REGIMEN UTAMA BAGI RAWATAN HIV DI FASILITI KEMENTERIAN KESIHATAN MALAYSIA (KKM).

1. TUJUAN

Surat pekeliling ini bertujuan untuk memaklumkan pelaksanaan perkhidmatan rawatan TLD (Tenofovir/Lamivudine/Dolutegravir) sebagai regimen utama bagi rawatan HIV di fasiliti Kementerian Kesihatan Malaysia (KKM). Inisiatif ini adalah sebahagian daripada usaha mencapai matlamat Mengakhiri AIDS (*Ending AIDS*) menjelang tahun 2030.

2. LATAR BELAKANG

2.1 Kementerian Kesihatan Malaysia (KKM) komited dalam memperkukuhkan akses kepada rawatan HIV yang efektif, selamat dan berkualiti selaras dengan saranan Pertubuhan Kesihatan Sedunia (WHO) ke arah mencapai sasaran kawalan epidemik HIV.

2.2 Pelaksanaan penggunaan regimen TLD sebagai rawatan antiretroviral (ARV) barisan pertama bagi pesakit HIV dilihat berperanan penting dalam usaha untuk meningkatkan liputan rawatan dan mencegah penularan jangkitan.

2.3 Pelaksanaan penggunaan regimen TLD adalah berdasarkan kelebihan berikut:

2.3.1 Keberkesanan virologi yang tinggi;
2.3.2 Profil keselamatan yang baik dan toleransi pesakit yang tinggi berbanding rejim sebelumnya;
2.3.3 Halangan rintangan ubat (drug resistance barrier) yang lebih tinggi; dan
2.3.4 Rejim dos sekali sehari yang meningkatkan kepatuhan rawatan.

2.4 Rawatan TLD sebagai rejim utama dijangka akan dapat;

2.4.1 Memperluas meningkatkan bilangan orang yang hidup dengan HIV/AIDS (ODHA) yang menerima rawatan ARV dari 68% (2022) kepada lebih 95% pada 2030 dengan menggunakan rejim TLD.

2.4.2 Mempercepatkan, meningkatkan dan mengekalkan supresi virus (viral supression) agar ODHA dapat mencapai tahap U=U (undetectable = Untransmittable).

2.4.3 Mencegah penularan jangkitan HIV ke arah matlamat untuk mengakhiri AIDS 2030 dengan menurunkan jangkitan HIV baru di bawah 900 kes setahun pada 2030.

2.4.4 Mengurangkan kematian akibat HIV.

3. DASAR DAN POLISI

Dasar dan polisi pelaksanaan perkhidmatan rawatan TLD ini telah mendapat persetujuan dan kelulusan mesyuarat berikut:

3.1 Mesyuarat Khas Ketua Pengarah Kesihatan (KPK) Bil. 4/2024 pada 17 Mei 2024.

3.2 Mesyuarat Jawatankuasa Dasar Perancangan Kementerian Kesihatan (JDPKK) Bil. 3/ 2024 pada 27 Jun 2024.

4. PELAKSANAAN

Perkhidmatan rawatan TLD ini akan dilaksanakan di semua fasiliti KKM. Ini merangkumi perkara berikut;

4.1 semua pesakit HIV/AIDS baharu akan diberikan rawatan TLD.

4.2 melaksanakan peralihan rawatan ke atas pesakit sedia ada daripada regimen berasaskan efavirenz kepada regimen rawatan TLD.

4.2.1 Pegawai Perubatan Pakar atau pegawai perubatan yang merawat dikehendaki mengenalpasti pesakit HIV/AIDS yang sedang menerima rawatan ARV berasaskan Efavirenz dan membuat peralihan rawatan kepada TLD secara berperingkat.

4.2.2 Peralihan regimen ini akan dilaksanakan sehingga mencapai lebih 95% pesakit sedia ada atau ODHA telah menerima TLD

4.2.3 Satu garis panduan telah dibangunkan dan dibentangkan kepada Pakar Perubatan Penyakit Berjangkit, Pakar Perubatan Keluarga, Pegawai Farmasi dan Pegawai AIDS Negeri pada 20 Mac 2025 bagi tujuan peralihan rawatan (Rujuk Lampiran 1)

4.2.4 Perolehan TLD akan dibuat di peringkat fasiliti KKM berkenaan sepertimana perolehan ubat ARV sebelum ini.

5. TARIKH KUATKUASA

Arahan ini adalah berkuatkuasa dari tarikh surat ini dikeluarkan sehingga sebarang pembaharuan dimaklumkan.

6. PERTANYAAN

Sebarang pertanyaan boleh dikemukakan kepada:

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7. PENUTUP

Kerjasama daripada YBhg. Datuk Seri/ Dato' Sri/ Datuk/ Dato' Indera / Dato'/ Datin / Tuan / Puan adalah dimohon untuk memaklumkan semua fasiliti di bawah tanggungjawab YBhg. Datuk Seri/ Dato' Sri/ Datuk/ Dato' Indera / Dato'/ Datin / Tuan / Puan mengenai perkara ini dan seterusnya memastikan keputusan dasar / polisi ini dilaksanakan dengan baik dan lancar.

Kerjasama YBhg. Datuk Seri/ Dato' Sri/ Datuk/ Dato' Indera / Dato'/ Datin / Tuan / Puan ke atas perkara ini amat dihargai.

Sekian, terima kasih.

"MALAYSIA MADANI"

"BERKHIDMAT UNTUK NEGARA"

Saya yang menjalankan amanah,

(DATUK DR. MAHATHAR BIN ABD WAHAB)
Ketua Pengarah Kesihatan Malaysia

s.k :

Timbalan Ketua Pengarah Kesihatan (Kesihatan Awam)
Kementerian Kesihatan Malaysia

Timbalan Ketua Pengarah Kesihatan (Perubatan)
Kementerian Kesihatan Malaysia

Timbalan Ketua Pengarah Kesihatan (Perkhidmatan Farmasi)
Kementerian Kesihatan Malaysia

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Bahagian Kewangan
Kementerian Kesihatan Malaysia

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Ketua
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Ketua
Kepakaran Perubatan Keluarga

MALAYSIA TLD TRANSITION

INTRODUCTION

Dolutegravir (DTG) based regimens are recommended as the preferred 1st line regimen in most international guidelines including Malaysia for its superior efficacy, improved tolerability, infrequent drug interactions, excellent safety profiles and higher genetic barrier to resistance.

As of June 2021, 110 low to middle income countries have transitioned to DTG with an estimated 22 million people receiving DTG based ART[1]. However, the relatively high cost of DTG presents a significant burden and hindrance for its wide usage in Malaysia. The availability of generic Dolutegravir and roll out of co-formulation of Tenofovir Disoproxil Fumarate, Lamivudine and Dolutegravir, called TLD, to our shores is finally making the transition a reality for us.

MEDICATION	**Fixed-dose combination** of Tenofovir Disoproxil Fumarate (TDF) 300mg, Lamivudine (3TC) 300mg, Dolutegravir (DTG) 50mg **Dosage** : 1 tablet once daily
PREREQUISITE	Age > 12 years of age Weight ≥ 40 kg
CONTRAINDICATION	eGFR < 50 ml/min Hypersensitivity to **TDF** or **3TC**

INDICATION FOR TLD INITIATION / SWITCH

1. ARV initiation for treatment naive patient
2. Switching ***stable** 1st-line (NNRTI) regimen to TLD
3. Switching #**failed** 1st-line (NNRTI) regimen to TLD
4. Switching **stable** PI-based regimen to TLD
5. Switching **stable** Dolutegravir containing regimen to TLD
6. Switching **failed** PI-based regimen to TLD

CURRENT REGIMEN	PROPOSED ACTION
1. ARV initiation for treatment naive patient	
Treatment naïve	- Start TLD to all new patients unless contraindicated (refer ***Treatment naive*** section) - Regardless of baseline CD4, VL
2. Switching <u>stable</u> 1st-line (NNRTI) regimen to TLD	
<u>NNRTI : EFV or NVP</u> TDF/ FTC + (EFV or NVP) AZT/ 3TC + (EFV or NVP)	- Switch to TLD unless contraindicated
3. Switching <u>failed</u> 1st-line (NNRTI) regimen to TLD	
<u>NNRTI - EFV or NVP</u> TDF/FTC + (EFV or NVP) AZT/3TC + (EFV or NVP)	- Switch to TLD unless contraindicated - No need viral resistance testing prior to switch
4. Switching <u>stable</u> PI based regimen to TLD	
PI-based regimen - LPV/r or ATV/r AZT/3TC + (LPV/r or ATV/r) TDF/FTC + (LPV/r or ATV/r)	- Switch to TLD unless contraindicated - No need viral resistance testing prior to switch To check previous Raltegravir exposure *(refer **Special Consideration** section)*
5. Switching <u>stable</u> Dolutegravir containing regimen to TLD	
Dolutegravir - DTG AZT/3TC + DTG TDF/FTC + DTG	- Switch to TLD unless contraindicated
6. Switching <u>failed</u> PI based regimen to TLD	
PI-based regimen - LPV/r or ATV/r AZT/3TC + (LPV/r or ATV/r) TDF/FTC + (LPV/r or ATV/r)	- **Refer ID for subsequent ARV regimen** - To send viral resistance testing

NOTE

- ***STABLE**: A decline in viral load to **<50 copies/mL** within 6 months on commencing ARV, and sustained thereafter
- **#FAILED**: A persistently detectable viral load **> 1000 copies/mL** after at least 6 months on ARV
- These recommendations are made with the assumption that there are no contraindications to TLD.
- Patients with unsuppressed viral load prior to TLD switch ⇒ need to address the adherence, psychosocial factors and identify any other potential cause of treatment failure.

SPECIAL CONSIDERATION

On Rifampicin-based TB treatment

- Majority guidelines recommend **double dosing** of DTG due to significant reduction of DTG plasma concentration by Rifampicin. However recent studies have shown **daily dose** of DTG is adequate for viral load suppression even while on Rifampicin-based TB treatment with the following criterias:

1- 1st line Dolutegravir-based ARV **2- CD4 > 100 cells/ µL**

Suggestion : Discuss with ID physician or wait till completed TB treatment prior to TLD initiation / switch

INSTI exposure (previous Raltegravir exposure) *** Raltegravir's production has been discontinued*

- Failure of Raltegravir based regimen might require **double dosing** of DTG.

Suggestion: Need viral resistance test prior to TLD change

DRUG-DRUG INTERACTION

Interacting drug	Effect	Recommendation
Anticonvulsant Carbamazepine Phenytoin Phenobarbital	↓ **Dolutegravir**	**Avoid co-administration if possible** Drugs without interaction with DTG that can be used: *Sodium Valproate, Lamotrigine, Levetiracetam and Topiramate*. Double dose of DTG if no alternative anticonvulsant.
Metformin	↑ **Metformin**	Metformin initiation: Initiate metformin at a lower dose and titrate up to a max dose of 1g. DTG initiation: Monitor for increased risk of lactic acidosis especially in patients with moderate renal impairment.
Polyvalent cations (Mg^{2+},Fe^{2+}, Ca^{2+}, Al^{3+}, Zn^{2+}) e.g. antacids, multivitamin, nutritional supplements	↓ **Dolutegravir**	Calcium or iron supplements decrease DTG if **taken together** on an **empty stomach** Magnesium or Aluminum containing antacids decrease DTG **regardless of food intake** and should be taken a minimum 2 hours before or 6 hours after DTG **Ensure patients are counselled, as these are often available as OTC and might not be reported/documented **General advice (**To avoid confusion - relation to food intake or on empty stomach) • Avoid **2 hours PRE** or **6 hours POST DTG**

SIDE EFFECTS

DOLUTEGRAVIR (DTG)	TENOFOVIR DISOPROXIL FUMARATE (TDF)	LAMIVUDINE (3TC)
• Insomnia, headache (common) • Vivid dreams • Hepatotoxicity • Rash • Hyperglycaemia • Increased in serum creatinine • Nausea, diarrhoea (common) • Hypersensitivity syndrome (<1%)	• Headache, diarrhoea, nausea, vomiting, and flatulence • Renal insufficiency, Fanconi syndrome • Renal tubular damage reported -risk serious damage 0.5% (rare) • Osteomalacia • Reduced bone mineral density	• Minimal toxicity • Severe acute hepatitis flare may occur in HBV co-infected patients who discontinue 3TC

TIMING OF MEDICATION

Dolutegravir (DTG) can be taken either in the morning or at night, depending on individual tolerance and medical advice. Here are some factors to consider:	
MORNING	Recommended if the patient experiences insomnia or vivid dreams as side effects, which some people report when taking it at night.
NIGHT	Some prefer taking it at bedtime to minimize potential dizziness or nausea during the day.

CAUTION & MONITORING

Monitor creatinine 1-3 months post initiation

- A rise in creatinine is expected with DTG due to the inhibition of tubular secretion of creatinine from proximal renal tubule, but no effect on glomerular filtration and usually does not progress after 1st month and should plateau. This increase is not associated with actual kidney damage or a reduction in GFR, and does not indicate impaired kidney function.
    - Creatinine rise **< 25% or <30 mmol/L** is still ***acceptable*** - Likely **DTG related**
    - Creatinine rise **> 25% or >30 mmol/L** - To ***workout for*** **possible renal disease, *stop TLD*** and ***consider other regimes***

Monitor LFT (Refer table below)

Monitor for any allergic rash

PREFERRED MONITORING SCHEDULE

TEST	FREQUENCY
HIV VL	**<u>After ARV Initiation / from previous failed regimen</u>** : Repeat VL after 4 months **<u>After switching (other indications)</u> :** Repeat VL after 6 months Thereafter if stable VL suppression achieved - Repeat 6 monthly to yearly VL depending on feasibility
CD4	(to align with VL) CD4 < 200 cells/mm : 3 to 6 monthly CD4 200-350 cells/mm : annually CD4 > 350 cells/mm :(2 occasions 1 yr apart - no further CD4 required)
FBC	Every 4 to 6 months
Renal function	At week 4 then week 12; then 4 to 6 monthly if stable
Liver function	At week 4 then every 4 to 6 months
FSL / FBS	Every 6 to 12 months

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