Recommendations for the Use of Antiretroviral Therapy in Adults Living with HIV in Singapore: 2023 Updates

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NATIONAL HIV PROGRAMME

SINGAPORE HIV CONGRESS 2023

National Centre for Infectious Diseases

Overview

- Need for National ART Recommendations
- Recommendations workgroup & process
- What's new in the guidelines?
- What to start?
- Switch strategies
- Antenatal & perinatal care of women living with HIV

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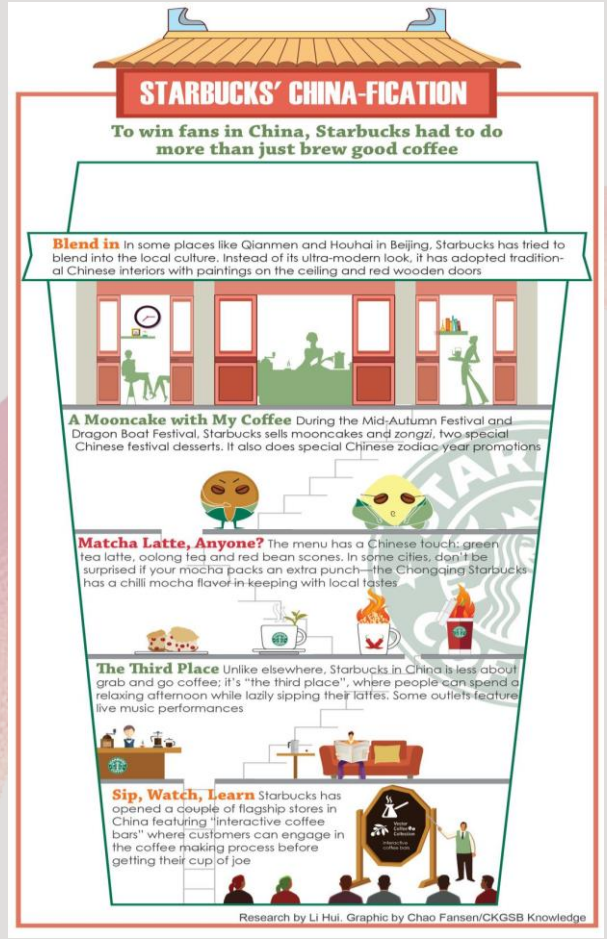
NHIVP ROLES & FUNCTIONS

- Formulate national strategic approach to achieve UNAIDS 90-90-90 targets & beyond
  - ✓ Ending HIV in Singapore
  - ✓ 4th 95 – living well with HIV
- Consult & coordinate with key stakeholders across the continuum of HIV prevention, testing & treatment services
- Develop (and update!) evidence-based guidelines & best practices on HIV prevention, testing & treatment
- Assess impact of international & locally conducted research on national policies
- Monitor epidemiological trends in national registries & inform solutions

IMPORTANCE OF "GLOCALIZATION"

- International recommendations & benchmarks must be applied with local context in mind

- Of particular importance for ART:
  - ➢ Transmitted drug resistance trends
  - ➢ Health economics



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WORKGROUP & PROCESS

Methods

ART Workgroup convened

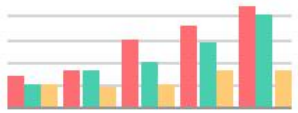
WHO | DHHS

EACS | IAS

Review select International Guidelines

Health economics

Transmitted Drug Resistance



Adaptation to Singapore context

Community Advisory Board

Consultation & Feedback

Chapter of ID

MINISTRY OF HEALTH SINGAPORE

Launch at SHC

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WHAT'S NEW IN THE GUIDELINES?

1. Selection of ART

- TDF/TAF- based regimen with 3TC/FTC combined with DRV-r has been included as a first line regimen for individuals who acquire HIV while using CAB-LA as PrEP
- DTG/3TC is now available in Singapore as a single tablet formulation.
- RAL has been removed as an option under alternative regimens

2. Switching ART in the setting of virologic suppression

- IM CAB/RPV has been included as an option for switching ART in individuals who are virologically suppressed.
- When switching to a two-drug regimen, individuals who are virologically suppressed with archived 3TC- associated mutations and or/prior virological failures can still consider switching to DTG/3TC as a strategy.
- "Special consideration" - switching to TAF/TDF/XTC with either BIC or DTG in individuals who have pre-existing NRTI resistance.

What's new?

3. Monitoring

- HIV viral load monitoring should be done 4 to 8 weeks after switching to IM CAB/RPV.

4. New Section

- Antenatal, perinatal care and monitoring of women living with HIV and their infants

1. Selection of ART

- TDF/TAF-based regimen with 3TC/FTC combined with DRV-r has been included as a first line regimen for individuals who acquire HIV while using CAB-LA as PrEP
- DTG/3TC is now available in Singapore as a single tablet formulation
- RAL has been removed as an option under alternative regimens

2. Switching ART in the setting of virologic suppression

- IM CAB/RPV included as an option for switching ART in individuals who are virologically suppressed

- When switching to a two-drug regimen, individuals who are virologically suppressed with archived 3TC-associated mutations and or/prior virologic failure can still consider switching to DTG/3TC as a strategy

- A “special consideration” segment has been added to this section that discusses switching to TAF/TDF/XTC with either BIC or DTG in individuals who have pre-existing NRTI resistance

3. Monitoring

- An addendum has been added to indicate that HIV viral load monitoring should be done 4 to 8 weeks after switching to IM CAB/RPV.

4. New section

- A new section on antenatal and perinatal care and monitoring of women living with HIV and their infants has been added to the recommendations.

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WHAT TO START: KEY POINTS

For individuals who do not have a history of using CAB-LA as PrEP, the following regimens are recommended:

(1) **DTG and BIC-based** regimens are the **preferred** first line regimens (Table I, II, III):
- **TDF or TAF / FTC or 3TC based regimens:** combined with DTG. BIC is currently only available as a combination tablet with TAF/FTC (Biktarvy®)
- **ABC/3TC based regimens:** combination tablet consisting of ABC, 3TC and DTG is available (Triumeq®)
- **NRTI-sparing regimens:** DTG/3TC

(2) **NNRTI- and DRV/r-based** regimens can be considered as **alternative** first line regimens if INSTI-based regimens cannot be used

(3) RAL-based regimen removed as an alternative first line regimen

WHAT TO START: KEY POINTS

For individuals who have a history of using CAB-LA as PrEP, the following regimen should be used if treatment is started prior to the results of HIV genotypic resistance testing:

(4) **Boosted DRV-r combined with TDF or TAF / FTC or 3TC based regimen** - pending results of genotypic resistance testing (Table IV)

TENOFOVIR-BASED REGIMENS

Individuals who do not have a history of using CAB-LA as PrEP prior to acquiring HIV:

Table I: Tenofovir-based regimens

NRTI backbone	3rd Drug		Singapore	DHHS 2022	IAS 2022	EACS 2022	WHO 2021
TFV (TDF or TAF) #	INSTI	DTG	Only if: 1) Hepatitis B co-infected or 2) HLA B*57:01 positive				TDF + 3TC/FTC + DTG
		BIC	BIC is combined with TAF and FTC as a single combination tablet				
PLUS	PI	DRV/r					
FTC or 3TC	NNTI	EFV 400mg OD					
		EFV 600mg OD					
		RPV					

TFV: Tenofovir; TDF: Tenofovir disoproxil fumarate; TAF: Tenofovir alafenamide; FTC: Emtricitabine; EACS: European AIDS Clinical Society; 3TC: Lamivudine; NNRTI: Non-nucleoside reverse transcriptase inhibitor; PI: Protease inhibitor; IAS: International AIDS Society; INSTI: Integrase strand transfer inhibitor; EFV: Efavirenz; RPV: Rilpivirine; DRV/r: Darunavir/ritonavir; DTG: Dolutegravir; DHHS: Department of Health and Human Services; BIC: Bictegravir; RAL: Raltegravir; Hep B: Hepatitis B virus; HLA B5701: Human leukocyte antigen B5701; WHO: World Health Organisation

#TDF to be avoided in patients with CrCl <60 mL/min. TAF to be avoided in patients with CrCl <30 mL/min

Legend:

Preferred 1st Line	Should be used as first choice regimen in ART-naïve individuals with no contra-indications to the drugs in this regimen
Alternative 1st Line	Should be used as first choice regimen in ART-naïve individuals with specific contra-indications to the drugs in Preferred 1st Line Regimen OR with specific indications requiring specific antiretroviral drugs (drug-drug interactions e.g., use of chemotherapy) OR where circumstances prevent the use of Preferred 1st Line Regimens (cost considerations) OR as stable switch regimens in specific circumstances

ABACAVIR-BASED REGIMENS

Table II: Abacavir-based regimens

NRTI backbone	3rd Drug		Singapore	DHHS 2022	IAS 2022	EACS 2022	WHO 2021
ABC* + 3TC (HLA B*57:01 screening would only be cost-effective in non-Chinese including late-stage Malay and Indian ethnicities)	INSTI	DTG	ABC/3TC/DTG is formulated as a single combination tablet.				
	PI	DRV/r					
	NNRTI	EFV 400mg OD	Only if: - HIV1 RNA <100,000 copies/ml				
		EFV 600mg OD	Only if: - HIV1 RNA <100,000 copies/ml				
		RPV	Only if: - CD4>200, HIV1 RNA <100,000 copies/ml				

ABC: Abacavir; 3TC: Lamivudine; NNRTI: Non-nucleoside reverse transcriptase inhibitor; PI: Protease inhibitor; IAS: International AIDS Society; INSTI: Integrase strand transfer inhibitor; EACS: European AIDS Clinical Society; EFV: Efavirenz; RPV: Rilpivirine; DRV/r: Darunavir/ritonavir; DTG: Dolutegravir; DHHS: Department of Health and Human Services; BIC: Bictegravir; RAL: Raltegravir; WHO: World Health Organisation

*To be avoided in patients with high cardiovascular risks and patients with HBV co-infection.

Legend:

Preferred 1st Line	Should be used as first choice regimen in ART-naïve individuals with no contra-indications to the drugs in this regimen
Alternative 1st Line	Should be used as first choice regimen in ART-naïve individuals with specific contra-indications to the drugs in Preferred 1st Line Regimen OR with specific indications requiring specific antiretroviral drugs (drug-drug interactions e.g., use of chemotherapy) OR where circumstances prevent the use of Preferred 1st Line Regimens (cost considerations) OR as stable switch regimens in specific circumstances

TWO-DRUG REGIMENS

Table III: NRTI-sparing regimens

Regimen	Singapore	DHHS 2022	IAS 2022	EACS 2022	WHO 2021
DTG/3TC	Except if HIV RNA > 500,000 copies/mL, HBV co-infection or ART initiated before GRT for NRTI or HBV testing is available				

DHHS: Department of Health and Human Services; IAS: International AIDS Society; EACS: European AIDS Clinical Society; WHO: World Health Organisation

Legend:

Preferred 1st Line	Should be used as first choice regimen in ART-naïve individuals with no contra-indications to the drugs in this regimen

PRIOR CAB-LA PrEP

Individuals who have a history of using CAB-LA as PrEP:

Table IV: Regimen for individuals who have a history of using CAB-LA as PrEP

Regimen	Singapore	DHHS 2022	IAS 2022	EACS 2022	WHO 2021
TFV (TDF or TAF) # PLUS FTC or 3TC PLUS DRV/r	If ART is to be started prior to the availability of HIV genotypic resistance testing results				

TFV: Tenofovir; TDF: Tenofovir disoproxil fumarate; TAF: Tenofovir alafenamide; FTC: Emtricitabine; 3TC: Lamivudine; DRV/r: Darunavir/ritonavir; EACS: European AIDS Clinical Society; IAS: International AIDS Society; DHHS: Department of Health and Human Services; WHO: World Health Organisation
#TDF to be avoided in patients with CrCl <60 mL/min. TAF to be avoided in patients with CrCl <30 mL/min

Legend:

Preferred 1st Line	Should be used as first choice regimen in ART-naïve individuals with no contra-indications to the drugs in this regimen

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SWITCHING TO TWO-DRUG REGIMENS

INITIAL DRUG	REASON TO SWITCH (EXAMPLES)	SWITCH TO	IF	WHEN TO SWITCH
Tenofovir-based regimens (TDF or TAF)	Nephrotoxicity Osteoporosis	DTG/3TC DTG/RPV DRV/r/3TC*	• No resistance to either drug component is present** • Patient with HBV co-infection, additional HBV-active agent such as entecavir should be added * DRV/3TC should only be used if unable to use DTG-based two drug regimens ** SOLAR 3D	≥6 months stable
ABC-based regimen	Myocardial infarction Significant cardiac risk factors			
Oral three-drug regimen	Reduce pill burden Improve adherence	IM CAB/RPV	• Patients with HBV co-infection should not be placed on this regimen • No baseline resistance to either drug component • Not pregnant or intending to become pregnant	

TDF: Tenofovir disoproxil fumarate. TAF: Tenofovir alafenamide. ABC: Abacavir; DTG: dolutegravir. 3TC: lamivudine RPV: Rilpivirine; CAB: cabotegravir. HIV VL: Human Immunodeficiency

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ANTENATAL & PERINATAL CARE

https://for.sg/nhivp

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Questions?

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Thank you

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