# CA-ADAP Medical Advisory Committee: Formulary Review

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#### CA-ADAP Formulary Review: AGENDA

ADAP's formulary covers antiretroviral treatment, opportunistic infection treatment, and select medications for common comorbidities among people living with HIV

At each MAC meeting several classes of therapeutics will be reviewed. Today's meeting will focus on:

- Hypertension
- Treatment of Diabetes with Insulin Therapy
- Medication-Assistance Therapy



# **Therapeutic Class Review**

ANTIHYPERTENSIVE THERAPIES



# Hypertension (HTN) in PLWH

<b>Blood Pressure Levels</b>			
Classification	Systolic	Diastolic	
Normal	< 120 mmHg	< 80 mmHg	
Pre-HTN	120-139 mmHg	80-89 mmHg	
Stage I HTN	140-159 mmHg	90-99 mmHg	
Stage II HTN	≥ 160 mmHg	≥ 100 mmHg	

- HTN is becoming more prevalent in people living with HIV (PLWH), especially as they age.
  - A recent meta-analysis of data collected globally, demonstrated 35% of HIV patients on antiretroviral therapy (ART) have HTN, compared to only 30% of HIV-uninfected adults.
  - In ART experienced individuals aged 50 and older, > 50% of patients had HTN.
- PLWH with concomitant HTN have a higher risk for:
  - 1) Cardiovascular events and all-cause mortality than HIV-uninfected adults and PLWH with normal blood pressure.
  - 2) 2-fold higher risk for myocardial infarction (MI) than uninfected adults.
- The mechanisms for the potential causes of HTN in PLWH are still unknown



## Hypertension (HTN) in PLWH



Treatment Guideline	Patient Demographic	When to start treatment	Blood Pressure Goals
JNC8, AAFP, ACP	Adults $\geq$ 60 years of age	> 150 SBP or > 90 DPB	< 150/90
	<ul> <li>Patients &lt; 60 years of age</li> <li>Patients with chronic kidney disease (CKD)</li> </ul>	> 140/90	< 140/90
AHA/ACC	<ul> <li>Lower risk adults</li> <li>Patients without CVD</li> </ul>	≥ 140/90	< 140/90
	<ul><li>High risk adults</li><li>Patients with CVD</li></ul>	≥ 130/80	< 130/80

#### Classes of medications used to treat HTN:

- 1) Angiotensin-Converting Enzyme Inhibitors (ACE-I)
- 2) Angiotensin II Receptor Blockers (ARBs)
- 3) Thiazide-type/like Diuretics
- 4) Calcium Channel Blockers (CCBs)
- 5) Beta Blockers (BB)



### **HTN Pharmacotherapy**



Agent	Generic	CA ADAP FORMULARY	
ANGIOTENSIN-CONVERTING ENZYME INHIBITORS (ACE-I)			
Benazepril (LOTENSIN)	Х		
Captopril (CAPOTEN)	Х		
ENALAPRIL (VASOTEC)	Х		
FOSINOPRIL (MONOPRIL)	Х		
LISINOPRIL (ZESTRIL)	Х		
QUINAPRIL (ACCUPRIL)	Х		
RAMIPRIL (ALTACE)	Х		
ANGIOTER	ISIN II RECEPTOR BLOCKERS	(ARBs)	
Candesartan (ATACAND)	Х		
Irbesartan (AVAPRO)	Х		
Losartan (COZAAR)	Х		
Olmesartan (BENICAR)	Х		
Telmisartan (MICARDIS)	Х		
Valsartan (DIOVAN)	Х		
THIAZIDE-TYPE/LIKE DIURETICS			
Chlorthalidone (DIURIL)	Х		
Hydrochlorothiazide (MICROZIDE)	Х		
Indapamide (LOZOL)	Х		



### **HTN Pharmacotherapy**



Agent	Generic	CA ADAP FORMULARY		
CALCI	CALCIUM CHANNEL BLOCKERS (CCBs)			
Amlodipine (NORVASC)	Х			
Diltiazem (CARDIZEM, CARTIA XT, DILT-XR)	Х			
Felodipine (PLENDIL)	Х			
Nifedipine (PROCARDIA, ADALAT)	Х			
Verapamil (CALAN, VERELAN)	Х			
	BETA BLOCKERS (BB)			
Atenolol (TENORMIN)	Х			
Bisoprolol (ZABETA)	Х			
Carvedilol (COREG)	Х			
Labetalol (NORMODYNE)	Х			
Metoprolol Tartrate (LOPRESSOR)	Х			
Metoprolol Succinate (TOPROL XL)	Х			



# **Therapeutic Class Review**

**INSULIN THERAPIES** 



## **Diabetes in PLWH**



People living with HIV (PLWH) are at an increased risk for developing Type 2 Diabetes:

- Due to aging (≥ 45 years of age)
- Chronic Inflammation
- HIV Medications (typically older agents)
- > Diabetes is the leading cause of major health complications:
  - End-Stage Renal Disease (ESRD) and lower extremity amputations
  - Ischemic heart disease
  - Stroke
  - Peripheral vascular disease
  - Vision loss

#### Classes of Medications used to treat Type 2 Diabetes:

- Biguanides
- Sulfonylureas
- Thiazolidinediones (TZDs)
- SGLT2 Inhibitors
- DPP4 Enzyme Inhibitors

- GLP-1 Receptor Agonists
- Alpha-Glucosidase Inhibitors
- Meglitinides
- Insulin



## Insulin Pharmacotherapy



Agent	Generic	CA ADAP FORMULARY	
	RAPID-ACTING INSULINS		
Insulin aspart (NOVOLOG, FIASP)	Х		
Insulin Lispro (ADMELOG, HUMALOG)	Х		
Insulin Glulisine (APIDRA)			
Human Insulin Inhalation Powder(Afrezza)			
REGL	JLAR/SHORT-ACTING INSULII	N	
Human Insulin (Humulin R, Novolin R)			
INT	ERMEDIATE-ACTING INSULIN		
Isophane Insulin NPH (Humulin N, Novolin			
N)			
	LONG-ACTING INSULIN		
Insulin degludec (TRESIBA)			
Insulin detemir (LEVEMIR)			
Insulin glargine U-100 (BASALGAR,			
LANTUS)			
ULTRA LONG-ACTNG INSULIN			
Insulin glargine U-300 (TOUJEO)			



## Insulin Pharmacotherapy



Agent	Generic	CA ADAP FORMULARY	
RAPID/INTERMEDIATE ACTING COMBINATIONS			
Insulin aspart (Novolog mix 70/30)	Х		
Insulin lispro (Humalog mix (75/25,			
50/50)	X (75/25)		
REGULAR/INTERMEDIATE ACTING COMBINATIONS			
Human Insulin (Humulin 70/30, Novolin			
70/30)			



# **Therapeutic Class Review**

#### **MEDICATION-ASSISTANCE TREATMENT (MAT)**



## **Opioid Use Disorder in PLWH**



PLWH are at an increased risk for opioid use disorder:

- More likely to have chronic pain
- Receive opioid analgesic treatment
- Receive higher doses of opioids
- Higher incidence of substance use disorders and mental illness in comparison to the general population
- Opioid Addition can be successfully treated with Medication-Assisted Treatment (MAT) with opioid agonists or antagonists, individualized counseling, and behavior therapy.

#### Medication-Assisted Therapy:

- 1) Opioid Agonists
- 2) Opioid Antagonists
- 3) Alpha2-Adrenergic Agonist
- 4) Combination Agents



### MAT Pharmacotherapy



Agent	Generic	CA ADAP FORMULARY	
	OPIOID AGONISTS		
Methadone	Х		
Buprenorphine SL Tablets (SUBUTEX)	Х		
Buprenorphine ER Injection (SUBLOCADE)			
Buprenorphine Implant (Subdermal)			
(PROBUPHINE)			
	OPIOID ANTAGONISTS		
Naloxone HCl Injection (EVZIO)		X	
Naloxone HCl Nasal Spray (NARCAN)		X	
Naltrexone HCI Tablets	Х		
Naltrexone ER Injectable Suspension			
(VIVITROL)			
ALF	ALPHA <sub>2</sub> -ADRENERGIC AGONIST		
Lofexidine (LUCEMYRA)			



### MAT Pharmacotherapy



Agent	Generic	CA ADAP FORMULARY
	COMBINATION AGENTS	
Buprenorphine/Naloxone SL Film		
(SUBOXONE)	Х	
Buprenorphine/Naloxone Buccal Film		
(BUNAVAIL)		
Buprenorphine/Naloxone SL Tablets		
(ZUBSOLV)		
Buprenorphine/Naloxone SL Tablets		
(SUBOXONE)	Х	



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