	AASLD	EASL	APASL	DDW	KASL
2013	2	0	3	1	N/A
2014	1	2	2	1	N/A
2015	1	1	5	0	2
2016	1	1	1	0	3
2017	NA	1	3	0	2

Abbreviations: AASLD; American Association for the Study of Liver Diseases, EASL; European Association for the Study of the Liver, APASL; Asian Pacific Association for the Study of the Liver, DDW; Digestive Disease Week, KASL; Korean Association for the Study of the Liver

Supplemental table 1. Major article searching

Data base	Search Strategy	Items
Medline	1. (chronic hepatitis B) OR (chronic hepatitis B [tw])	**19336**
	2. (tenofovir) OR (tenofovir [tw])	**5750**
	3. (entecavir) OR (entecavir [tw])	**2129**
	4. 2 OR 3	**7165**
	5. 1 AND 4	**1997**
EMBASE	1. ('chronic hepatitis b'/exp OR 'chronic hepatitis b':ab,ti OR 'chronic hepatitis b'/de) AND [embase]/lim	**22852**
	2. ('tenofovir'/exp OR 'tenofovir':ab,ti OR 'tenofovir'/de) AND [embase]/lim	**17559**
	3. ('entecavir'/exp OR 'entecavir':ab,ti OR 'entecavir'/de) AND [embase]/lim	**6930**
	4. 2 OR 3	**21691**
	5. 1 AND 4	**4874**
Cochrane	1. chronic hepatitis B:ti,ab,kw	**4412**
	2. tenofovir:ti,ab,kw	**1827**
	3. entecavir:ti,ab,kw	**494**
	4. 2 OR 3	**2207**
	5. 1 AND 4	**679**

Supplemental table 2. Search strategies

Study	Journal	Reason for exclusion
Asselah (2013)	Clin Liver Dis 17(3): 445-450.	Review
Batirel (2014)	Int J Infect Dis 28: 153-159.	No adequate data of renal function
Bircan (2017)	Clin Res Hepatol Gastroenterol. 2017 Jul 27. pii: S2210-7401(17)30152-3	No adequate data of renal function
Bradshaw (2014)	Aliment Pharmacol Ther 39(9): 992.	No adequate data of renal function, Commentary
Bunchorntavakul (2016)	J Med Assoc Thai 99 Suppl 2: S1-8.	No adequate data of renal function
Buti (2009)	J Hepatol 51(4): 640-646.	No adequate data of renal function
Ceylan (2013)	Eur Rev Med Pharmacol Sci 17(18): 2467-2473.	No adequate data of renal function
Chen (2010)	Zhonghua Shi Yan He Lin Chuang Bing Du Xue Za Zhi 24(5): 364-366.	No TDF arm
Chen (2013)	BMC Res Notes 6: 349.	No TDF arm
Chen (2014)	Aliment Pharmacol Ther 40(4): 406-407.	No adequate data of renal function, Letter
Cho (2015)	PLoS One 10(6): e0130392.	No adequate data of renal function
Cholongitas (2015)	Ann Gastroenterol. 2015 Jan-Mar;28(1):109-117.	No adequate data of renal function, Not extractable (Box Flot)
Deng (2013)	Zhong Nan Da Xue Xue Bao Yi Xue Ban 38(12): 1193-1207.	No adequate data of renal function, Meta analysis
Dienstag (2007)	Clin Drug Investig 27(1): 35-49.	No TDF arm
Dogan (2012)	Turk J Gastroenterol 23(3): 247-252.	No adequate data of renal function
Fong (2015)	Dig Dis Sci 60(11): 3465-3472.	No adequate data of renal function
Fung (2014)	J Gastroenterol Hepatol 29(3): 428-434.	Review
Gao (2014)	Aliment Pharmacol Ther 39(6): 629-637.	No adequate data of renal function
Gish (2012)	Clin Gastroenterol Hepatol 10(8): 941-946; quiz e968.	No adequate data of renal function
Gluhovschi (2011)	Immunopharmacol Immunotoxicol 33(4): 744-750.	No TDF arm

Goyal (2015)	Indian J Gastroenterol 34(4): 286-291.	No adequate data of renal function
Guzelbulut (2012)	Hepatogastroenterology 59(114): 477-480.	No adequate data of renal function
Ha (2016)	J Clin Gastroenterol. 2016 Feb;50(2):169-74	No adequate data of renal function
Huang (2015)	Int J Clin Exp Med 2015;8(1):666-673	No adequate data of renal function
Hung(2015)	Antimicrob Agents Chemother. 2015;59(6):3168-73.	No adequate data of renal function, Not extractable (Acute Exacerbation)
Jayakumar (2012)	J Lab Physicians. 2012 Jan;4(1):10-6	No adequate data of renal function
Jia (2016)	Chin J Hepatol, 2016,24(09): 643-646	No adequate data of renal function, Not same interval of repeating measure with other studies
Kim (2013)	Clin Mol Hepatol 19(4): 409-416.	No TDF arm
Kiyici (2015)	Hepatogastroenterology 62(140): 982-6.	No adequate data of renal function (No SD)
Koike (2017)	Hepatol Res. 2017 Apr 3. doi: 10.1111/hepr.12902	No adequate data of renal function
Koklu (2013)	Clin Gastroenterol Hepatol. 11(1):88-94.	No adequate data of renal function
Kwon (2015)	Niger J Clin Pract 18(6): 796-801.	No adequate data of renal function
Li (2011)	Zhonghua Shi Yan He Lin Chuang Bing Du Xue Za Zhi 25(4): 295-297.	No TDF arm
Liang (2011)	Zhonghua Gan Zang Bing Za Zhi 19(7): 516-520.	No TDF arm, Experimental study, one patient
Liaw (2011)	Hepatology 53(1): 62-72.	No adequate data of renal function
Lu (2015)	J Viral Hepat 22(8): 675-681.	Not monotherapy
Maggi (2015)	J Antimicrob Chemother 70(4): 1150-1154.	No ETV arm
Mallet (2015)	Clin Gastroenterol Hepatol. 13(6): 1181-1188 e1181.	No adequate data of renal function
Maratea (2013)	Aliment Pharmacol Ther 37(5): 584-585.	No adequate data of renal function, Letter
Marcellin (2014)	Antivir Ther 19(3): 235-243.	No adequate data of renal function

Marlone (2017)	Braz J Infect Dis. 2017 Jul - Aug;21(4):441-447	No adequate data of renal function
Mauss (2011)	J Hepatol. 2011 Dec;55(6):1235-40	No adequate data of renal function, Mean eGFR variation/per year
Miquel (2013)	Ann Hepatol 12(2): 205-212.	No adequate data of renal function
Ozaras (2014)	Eur J Gastroenterol Hepatol 26(7): 774-780.	No adequate data of renal function
Ozeki (2013)	Nihon Shokakibyo Gakkai Zasshi 110(1): 44-55.	No TDF arm
Pan (2013)	Antivir Ther 18(7): 841-852.	Review
Papatheodoridis (2015)	J Hepatol. 2015 Feb;62(2):363-70.	No adequate data of renal function
Papatheodoridis (2017)	Hepatology. 2017 Nov;66(5):1444-1453	No adequate data of renal function
Park (2013)	Clin Mol Hepatol 19(1): 29-35.	No TDF arm
Park (2014)	J Gastroenterol Hepatol 29(5): 1005-1011.	No TDF arm
Park (2017)	BMC Gastroenterol. 2017 Mar 9;17(1):39	No adequate data of renal function
Pol (2012)	J Viral Hepat 19(6): 377-386.	Review
Qi (2015)	Medicine (Baltimore) 94(15): e646.	No TDF arm, Not monotherapy
Qi (2015)	J Viral Hepat 22(1): 46-54.	No TDF arm
Rago (2010)	Antivir Ther 15(6): 929-932.	Case report
Ridruejo (2012)	Expert Opin Drug Saf 11(3): 357-360.	Review
Ridruejo (2014)	World J Gastroenterol 20(23): 7169-7180.	Review
Riveiro-Barciela (2017)	Dig Dis Sci. 2017 Mar;62(3):784-793.	Not monotherapy
Rodriguez-Novoa (2016)	J Clin Gastroenterol. 2016;50(9):779–789.	No adequate data of renal function (Median +/- SD)
Sadler (2014)	Aliment Pharmacol Ther 39(11): 1339.	No adequate data of renal function
Saeedi (2017)	Ann Hepatol. 2017 March-April;16(2):207-214	No adequate data of renal function

Shi (2016)	Biomed Res Int. 2016;2016:6725073	No adequate data of renal function
Shin (2016)	Medicine (Baltimore) 95(1): e2400.	No adequate data of renal function
Sollima (2015)	Clinical Management Issues, 9(2), 45-55	No adequate data of renal function
Sriprayoon (2017)	Hepatol Res. 2017;47(3):E161–E168.	No adequate data of renal function (No SD)
Srivastava (2016)	Indian J Med Res. 2016 Sep; 144(3): 424–432	No adequate data of renal function
Tarsetti (2015)	Clinical Management Issues. 9(4), 95-100.	No adequate data of renal function
Thu (2015)	BMC Pharmacol Toxicol 16: 38.	No adequate data of renal function, (Nucleoside vs Nucleotide)
Tien (2015)	Dig Dis Sci 60(2): 566-572.	No adequate data of renal function
Tsai (2016)	Clin Microbiol Infect. 2016 Jan;22(1):95.e1-95.e	No adequate data of renal function (No SD)
Tsai (2017)	J Formos Med Assoc. 2017 Jul;116(7):512-521	No adequate data of renal function (No SD)
Wu (2017)	Clin Microbiol Infect. 2017 Jul;23(7):464-469	No adequate data of renal function (No SD)
Yegin (2014)	Hepatobiliary Pancreat Dis Int 13(6): 602-611.	No adequate data of renal function
Yu (2014)	Saudi J Gastroenterol 20(6): 350-355.	No TDF arm
Zhang (2015)	J Med Virol 87(6): 1013-1021.	No ETV arm
Zhang (2017)	Int J Clin Exp Med 2017;10(8):12329-12335	No adequate data of renal function
Zoulim (2015)	J Hepatol 62(1): 56-63.	Not monotherapy

Supplemental table 3. List of citations excluded, including justification

MDRD-4	186 x $S_{cr}^{-1.154}$ x $age^{-0.203}$ x 1.212 (if black) x 0.742 (if female)
Re-expressed after IDMS calibration	175 x $S_{cr}^{-1.154}$ x $age^{-0.203}$ x 1.212 (if black) x 0.742 (if female)
MDRD-6	170 x $S_{cr}^{-0.999}$ x $age^{-0.176}$ x $BUN^{-0.170}$ x $albumin^{+0.318}$x 1.180 (if black) x 0.762 (if female)
Re-expressed after IDMS calibration	161.5 x $S_{cr}^{-0.999}$ x $age^{-0.176}$ x $BUN^{-0.170}$ x $albumin^{+0.318}$x 1.180 (if black) x 0.762 (if female)
MDRD-7	170 ×sCr −0.999 ×age −0.176 ×0.762 [if woman] ×1.180 [if the patient is African−American] ×BUN −0.170 ×serum albumin +0.318 (sCr is expressed in mg/dL, age in years, BUN in mg/dL, serum albumin in g/dL);
CKD-EPI (IDMS traceable)	eGFR(ml/min/1.73m2) = 141*min(Scr/κ,1)α *max(Scr/ κ,1)-1.209*0.993Age*1.018 if female, * 1.212 if Black κ = 0.7 for females and 0.9 for males α = -0.329 for remales, -0.411 for males min : minimum of Scr/κ or 1 max : maximum of Scr/κ or 1

Abbreviations: MDRD, modification of diet in renal disease; IDMS, isotope dilution mass spectrometry; CKD-EPI, chronic kidney disease epidemiology collaboration; Scr, serum creatinine; BUN, blood urea nitrogen

Supplemental table 4. Formulas to evaluate renal function

	Group 1	Group 2	Equation
Sample size	N_1	N_2	$N_1 + N_2$
Combine Mean	M_1	M_2	$\frac{N_1M_1 + N_2M_2}{N_1 + N_2}$
Subtract Mean	M_1	M_2	M_2 - M_1
Combine SD	SD_1	SD_2	$\sqrt{\frac{(N_1 - 1)SD_1{}^2 + (N_2 - 1)SD_2{}^2 + \frac{N_1N_2}{N_1 + N_2}(M_1{}^2 + M_2{}^2 - 2M_1M_2)}{N_1 + N_2 - 1}}$
Subtract SD	SD_1	SD_2	$\sqrt{SD_1{}^2 + SD_2{}^2 - 2SD_1SD_2 * 0.7}$

Supplemental table 5. Equations for modifying data

Bias	Ha	Park	Lopez	Idilman	Koklu	Tsai	Yu	Koksal	Lee
Selection									
1) Representativeness of the exposed cohort	★	★	★	★	★	★	★		★
2) Selection of the non exposed cohort	★	★	★	★	★	★	★		★
3) Ascertainment of exposure	★	★	★	★	★	★	★	★	★
4) Demonstration that outcome of interest was not present at start of study	★	★			★			★	
Comparability									
1) Comparability of cohorts on the basis of the design or analysis	★	★	★			★	★	★	
Outcome									
1) Assessment of outcome	★	★	★	★	★	★	★	★	★
2) Was follow-up long enough for outcomes to occur	★	★	★	★	★	★	★	★	★
3) Adequacy of follow up of cohort	★	★	★	★	★	★		★	

Supplemental table 6. Newcastle-Ottawa scale for non-randomized studies

Certainty assessment							№ of patients		Effect	Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	TDF	ETV	Absolute (95% CI)		
Creatinine - 6months											
5	observational studies	serious	not serious	not serious	not serious	· dose response gradient	833	891	MD 0.03 higher (0.02 higher to 0.04 higher)	⊕⊕◯◯ Low	CRITICAL
Creatinine - 12 months											
9	observational studies	serious	not serious	not serious	not serious	· all plausible residual confounding would reduce the demonstrated effect · dose response gradient	992	1174	MD 0.05 higher (0.02 higher to 0.08 higher)	⊕⊕⊕◯ Moderate	CRITICAL
Creatinine - 24 months											
6	observational studies	serious	not serious	not serious	not serious	· publication bias strongly suspected · all plausible residual confounding would reduce the demonstrated effect · dose response gradient	658	766	MD 0.07 higher (0.01 higher to 0.13 higher)	⊕⊕◯◯ Low	CRITICAL

Supplemental table 7. Grading of Recommendations Assessment, Development and Evaluation (GRADE) criteria to appraise quality of evidence

Author **Year** **Country**	**Inclusion Criteria**	**Exclusion Criteria**	**Renal Parameter**
Ha, 2015 [14] USA	naïve CHB eGFR > 50 ml/min/1.73m^2, HTN, DM	Co-infection, eGFR < 50 ml/min/1.73m^2	Creatinine CCG, MDRD
Koklu, 2015[24] Turkey	naïve CHB HTN, DM, eGFR < 60 ml/min/1.73m^2	Co-infection, HCC, Malignancy, Orgran transplantation, Acute liver failure	Creatinine MDRD
Lopez, 2016[22] Spain	HTN, DM, eGFR < 60 ml/min/1.73m^2 Concomitant drugs†	Co-infection‡	Creatinine CKD-EPI
Idilman, 2015[25] Turkey	naive CHB HCC (n=17/355)	Co-infection‡	Creatinine
Park, 2017[20] Korea	HbsAg > 6month, DM, HTN Concomitant drugs†	HCC / Death in 24month Massive bleeding eGFR < 60 ml/min/1.73m^2	Creatinine CKD-EPI
Tsai, 2016 [21] Taiwan	All Impaired renal function : eGFR 30-90 ml/min/1.73m^2 HCC (n = 13/99)	DM,HTN, Chemotherapy, Orgran transplantation, Co-infection	Creatinine CCG, MDRD, CKD-EPI
Yu, 2015[16] Korea	naïve CHB HTN, DM, HCC (n = 12/107)	Other Malignancy, CTx, RTx, Orgran transplantation, Co-infection‡	Creatinine MDRD
Koksal, 2016[23] Turkey	naive CHB	DM, HTN, Malignancy Thyroid/Renal disease	Creatinine, UACR, Cystatin C CKD-EPI-Cys, CKD-EPI-Cr-Cys
Lee, 2015* [15]	naïve CHB	Hepatorenal syndrome	Creatinine

Korea			

Abbreviations: CHB, chronic hepatitis B; eGFR, estimated glomerular filtration rate; HTN, hypertension; DM, diabetes mellitus; HCC, hepatocellular carcinoma; MDRD, modification of diet in renal disease; CKD-EPI, chronic kidney disease epidemiology collaboration; Cr, creatinine; Cys, Cystatin-C; UACR, urinary albumin-to-creatinine ratio; CTx, Chemotherapy; RTx, radiotherapy; RMSRC, reclassified to a more severe renal classification; * : Abstract, † : Concomitant drugs : NSAID, Diuretics, Statin, ACEi, Cardiovascular drugs(Isosorbide, b-blocker, anticoagulants), TMP-SMX, OHA, immunosuppressant, ‡ : Co-infection : HCV, HDV, HEV

Supplemental table 8. Inclusion and exclusion criteria and parameters used in article to indicate renal function.