West Hertfordshire Hospitals NHS
NHS Trust

Antihyperglycaemics in Renal and Hepatic Impairment

		Renal Impairment - CKD Stage						Hepatic Impairment	
Drug	**Class of Drug**	**1 (eGFR >90)**	**2 (eGFR 60-90)**	**3a (eGFR 59-45)**	**3b (eGFR 44-30)**	**4 (eGFR 29-15)**	**5 (eGFR<15/RRT)**	**Mild/ Moderate (Child Pugh A/B, Score <9)**	**Severe (Child Pugh C, Score >9)**
Metformin/ Metformin MR	**Biguanide**	✓	✓	✓	✓	✗	✗	✗	✗
Gliclazide/ Gliclazide MR	**Sulphonylurea**	✓	✓	✓	✓	✓ (use lowest dose)	✗	✓	✗
Repaglinide	**Meglitinide**	✓	✓	✓	✓	✓	✓	✓ Clinical experience lacking	✗
Sitagliptin	**DPP-4i**	100mg		50mg (if GFR <50ml/min)		25mg (if GFR <30ml/min)		✓	✓ Not studied in severe hepatic impairement
Linagliptin	**DPP-4i**	✓	✓	✓	✓	✓	✓	✓	✓ Clinical experience lacking
Pioglitazone	**Thiazolinedione**	✓	✓	✓	✓	✓	✓	✓	✓
Lixisenatide	**GLP-1 agonist**	✓	✓	✓	✓	✗	✗	✓	✓
Exenatide	**GLP-1 agonist**	✓	✓	✓	✓	✗	✗	✓	✓
Exenatide MR	**GLP-1 agonist**	✓	✓	✓ (not if GFR<50ml/min)	✗	✗	✗	✓	✓
Liraglutide	**GLP-1 agonist**	✓	✓	✓	✓	Trial data suggests no harm with lower eGFRs		✓	✗
Dulaglutide (Trulicity)	**GLP-1 agonist**	✓	✓	✓	✓	No evidence in SPC		✓	✓
Dapagliflozin	**SGLT-2i**	✓	✓	✗	✗	✗	✗	✓	✓ Start at 5mg, increase to 10mg if tolerated
Canaglifozin	**SGLT-2i**	✓	✓	✗ (Do not initiate if GFR <60ml/min, max dose 100mg OD if GFR falls persistently below 60ml/min after initiation, discontinue if GFR <45ml/min)				✓	✗
Empagliflozin	**SGLT-2i**	✓	✓	Awaiting license for use following recent trial (EMPA-REG) *		✗ (Do not initiate if GFR <30ml/min)		✓	✗
Insulin		✓	✓	✓	✓	Requirements may be reduced in severe CKD - monitor and adjust dose accordingly		Requirements may be altered in several CKD - monitor and adjust dose accordingly	

* Wanner et al (2016) Empagliflozin and Progression of Kidney Disease in Type 2 Diabetes. N Engl J Med; 375:323-334

Safe to use
Use with caution / consider dose adjustment
Not recommended / contraindicated