

**Supplementary Table 1.** Search strategy on MEDLINE, EMBASE, and Cochrane Central Register of Controlled Trials (CENTRAL)

Search strategy	
MEDLINE	
#1	exp diabetes mellitus type 2/
#2	exp non insulin dependent diabetes mellitus/
#3	(NIDDM or T2DM or T2D or MODY).tw,ot
#4	((diabetes or diabetes mellitus or diabetic*) adj1 (type 2 or type II or type ii or noninsulin dependent or noninsulin dependent or adult onset or mature onset or late onset)).tw.
#5	or/1-4
#6	exp insulin, long acting/ or exp insulin detemir/ or exp insulin glargine/ or exp insulin aspart/ or exp insulin lispro/ or exp isophane insulin/
#7	((long acting or longer acting or intermediate acting) adj insulin*).tw,ot
#8	insulin adj1 (degludec or detemir or glagine or zinc or aspart or lispro or isophane or lente or ultralente).tw
#9	exp biguanides/ or exp metformin/
#10	(biganid* or metformin*).tw,ot
#11	exp sulfonylurea compounds/ or exp acetohexamide/ or exp carbutamide/ or exp chlorpropamide/ or exp glibenclamide/ or exp gliclazide/ or exp glipizide/ or exp glyburide/ or exp tolazamide/ or exp tolbutamide/
#12	(sulfonylurea* or acetohexamide* or carbutamide* or chlorpropamide* or glibornuride* or glibenclamide* or gliclazide* or glimepiride* or glipizide* or gliquidone* or glyburide* or glycopyramide* or tolazamide* or tolbutamide*).tw,ot
#13	exp thiazolidinediones/
#14	(thiazolidinedion* or glitazone* or pioglitazon* or rosiglitazon* or rivoglitazone* or lobeglitazone*).tw,ot
#15	exp acarbose/
#16	(alpha-glucosidase inhibitor* or acarbose* or voglibose* or miglitol*).tw,ot
#17	exp dipeptidyl peptidase 4 inhibitors/
#18	(dipeptidyl-peptidase IV Inhibitor* or dipeptidyl-peptidase 4 Inhibitor* or ((DPP4 or DPP 4 or DPP IV) adj inhibitor*).tw,ot
#19	(dipeptidyl peptidase 4 inhibitor* or alogliptin* or anagliptin* or gemigliptin* or omarigliptin* or sitagliptin* or vildagliptin* or saxagliptin* or tenegliptin* or vildagliptin* or linagliptin*).tw,ot
#20	(amylin analogue* or amylin derivative* or pramlintide).tw,ot
#21	(meglitinide* or repaglinide* or nateglinide* or mitiglinide*).tw,ot
#22	(sodium glucose cotransporter inhibitor* or sodium glucose co transporter inhibitor*).tw,ot
#23	(atigliflozin* or bexagliflozin* or canagliflozin* or dapagliflozin* or empagliflozin* or ertugliflozin* or ipragliflozin* or luseogliflozin* or sergliflozin* or remogliflozin* or sotagliflozin* or tofogliflozin*).tw,ot
#24	exp Glucagon-Like Peptide 1/
#25	(glucagon-like peptide 1 receptor inhibitor* or glucagon-like peptide 1 receptor agonist* or glucagon-like peptide 1 inhibitor* or glucagon-like peptide 1 agonist* or GLP-1 receptor inhibitor* or GLP-1 receptor agonist* or GLP-1 inhibitor* or GLP-1 agonist*).tw,ot
#26	(exenatide* or exenidin 4 or liraglutide* or albiglutide* or lixisenatide* or dulaglutide* or semaglutide* or taspoglutide*).tw,ot
#27	or/6-26
#28	cerebrovascular disorders/ or exp basal ganglia cerebrovascular disease/ or exp brain ischemia/ or exp carotid artery diseases/ or exp intracranial arterial diseases/ or exp "intracranial embolism and thrombosis"/ or exp intracranial hemorrhages/ or stroke/ or exp brain infarction/ or vertebral artery dissection/
#29	(stroke or poststroke or post-stroke or cerebrovasc* or brain vas* or cerebral vas* or cva* or apoplex* or SAH).tw,ot
#30	((brain* or cerebr* or cerebell* or intracran* or intracerebral) adj5 (isch?emi* or infarct* or thrombo* or emboli* or occlus*)).tw,ot
#31	((brain* or cerebr* or cerebell* or intracerebral or intracranial or subarachnoid) adj5 (haemorrhage* or hemorrhage* or haematoma* or hematoma* or bleed*)).tw,ot

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Supplementary Table 1. Continued

	Search strategy
#32	exp hemiplegia/ or exp paresis/
#33	(hemipleg* or hemipar* or paresis or paretic).tw,ot
#34	exp Gait Disorders, Neurologic/
#35	or/28-34
#36	randomized controlled trial.pt
#37	controlled clinical trial.pt
#38	randomized.ab.
#39	placebo.ab.
#40	drug therapy.fs.
#41	randomly.ab.
#42	trial.ab.
#43	groups.ab.
#44	or/36-43
#45	exp animals/ not humans.sh.
#46	44 not 45
#47	5 and 27 and 35 and 46
<b>EMBASE</b>	
#1	( 'non insulin dependent diabetes mellitus'/exp OR 't2dm' OR 'adult onset diabetes' OR 'adult onset diabetes mellitus' OR 'diabetes mellitus type 2' OR 'diabetes mellitus type ii' OR 'diabetes mellitus, maturity onset' OR 'diabetes mellitus, non insulin dependent' OR 'diabetes mellitus, non-insulin-dependent' OR 'diabetes mellitus, type 2' OR 'diabetes mellitus, type ii' OR 'diabetes type 2' OR 'diabetes type ii' OR 'diabetes, adult onset' OR 'dm 2' OR 'insulin independent diabetes' OR 'insulin independent diabetes mellitus' OR 'ketosis resistant diabetes mellitus' OR 'maturity onset diabetes' OR 'maturity onset diabetes mellitus' OR 'maturity onset diabetes of the young' OR 'niddm' OR 'non insulin dependent diabetes' OR 'non insulin dependent diabetes mellitus' OR 'nonin-sulin dependent diabetes' OR 'noninsulin dependent diabetes mellitus' OR 'type 2 diabetes' OR 'type 2 diabetes mellitus' OR 'type ii diabetes') AND ('insulin derivative'/exp OR 'carbamoylinsulin' OR 'carbamylinulin' OR 'carbonyl bis methionyl insulin' OR 'diacetoacetyl insulin' OR 'diacetylinsulin' OR 'diaminosuberoyl insulin' OR 'insulin analog' OR 'insulin analogue' OR 'insulin derivative' OR 'insulins' OR 'methylthiocarbamoylinsulin' OR 'methylthiocarbamylinulin' OR 'mononitroinsulin' OR 'polyalanyl-insulin series' OR 'suberoyl insulin' OR 'succinyl insulin' OR 'triacetylinsulin' OR 'tricarbamylinulin' OR 'metformin'/exp OR '1, 1 dimethylbiguanide' OR 'apophage' OR 'aron' OR 'benofomin' OR 'dabex' OR 'denkaform' OR 'deson' OR 'dextin' OR 'diatase' OR 'diatase s' OR 'diabetformin' OR 'diabetmin' OR 'diabetmin retard' OR 'diabetosan' OR 'diabex' OR 'diafat' OR 'diaformin' OR 'diaformina' OR 'diaformina lp' OR 'diametin' OR 'diamin' OR 'dianben' OR 'diformin' OR 'diformin retard' OR 'dimefor' OR 'dimethylbiguanide' OR 'dimethyldiguanide' OR 'dmgg' OR 'dybis' OR 'eraphage' OR 'espa-formin' OR 'euform retard' OR 'flua-mine' OR 'flumamine' OR 'fornidd' OR 'fortamet' OR 'glafornil' OR 'glibudon' OR 'glifage' OR 'gliguanid' OR 'glucaminol' OR 'glucofage' OR 'glucofago' OR 'glucoform' OR 'glucoformin' OR 'glucohexal' OR 'glucoless' OR 'glucomet' OR 'glucomin' OR 'glu-comine' OR 'gluconil' OR 'glucophage' OR 'glucophage forte' OR 'glucophage retard' OR 'glucophage sr' OR 'glucophage xr' OR 'glucophage xr extended release' OR 'glucophage-mite' OR 'glucostop' OR 'glucotika' OR 'gludepatic' OR 'glufor' OR 'gluformin' OR 'glukophage' OR 'glumeformin' OR 'glumet' OR 'glumetza' OR 'glupa' OR 'glustress' OR 'glyciphage' OR 'glycomet' OR 'glycon' OR 'glycoran' OR 'glyformin' OR 'glymet' OR 'haurymellin' OR 'hipoglucin' OR 'i-max' OR 'islotin' OR 'juformin' OR 'la 6023' OR 'la6023' OR 'lyomet (drug)' OR 'maformin' OR 'meglucon' OR 'meguan' OR 'melbin' OR 'melformin' OR 'mellittin' OR 'merckformin' OR 'mescorit' OR 'metaformin' OR 'metfogamma' OR 'metfoliquid geriasan' OR 'metforal' OR 'metformax' OR 'met-formin' OR 'metformin hydrochloride' OR 'metformina' OR 'metformine' OR 'metformine hcl' OR 'methformin' OR 'metiguanide' OR 'metomin' OR 'metphormin' OR 'miformin' OR 'n, n dimethylguanylguanide' OR 'n, n dimethylguanylguanidine' OR 'n, n dimethylbiguanide' OR 'n, n dimethyl biguanidine' OR 'n, n dimethylbiguanide' OR 'n, n dimethylbiguanide retard' OR 'n, n dimethylbiguanidine' OR 'n, n dimethyldiguanide' OR 'n, n dimethylguanylguanidine' OR 'neoform' OR 'nndg' OR 'reglus-500' OR 'riomet' OR 'risidon' OR 'siamformet' OR 'siofor' OR 'thiabet' OR 'vimetrol' OR 'walaphage' OR 'sulfonylurea derivative'/exp OR 'sulfonurea derivative' OR 'sulfonylurea compounds' OR 'sulfonylurea derivative' OR 'sulfonylurea series' OR 'sulfonylureas, first generation' OR 'sulfonylureas, second generation' OR 'sulphonylurea derivative' OR

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Supplementary Table 1. Continued

Search strategy
'glitazone derivative'/exp OR 'glitazone' OR 'glitazone compound' OR 'glitazone derivative' OR 'glitazones' OR 'thiazolidinedione antidiabetic' OR 'thiazolidinedione antidiabetic agent' OR 'thiazolidinedione antidiabetic drug' OR 'acarbose'/exp OR 'carbosa' OR 'acarbose' OR 'acarbosio' OR 'acarphage' OR 'adeksa' OR 'ag 5421' OR 'ag5421' OR 'aglucose' OR 'alpha ghi' OR 'bay g 5421' OR 'bay g5421' OR 'eclid' OR 'glibose' OR 'glicobase' OR 'glucar' OR 'glucarb' OR 'glucobay' OR 'gluconase' OR 'glucor' OR 'glumida' OR 'prandase' OR 'precose' OR 'rebose' OR 'symrose' OR 'dipeptidyl peptidase iv inhibitor'/exp OR 'dpp 4 inhibitor' OR 'dpp iv inhibitor' OR 'dipeptidyl peptidase 4 inhibitor' OR 'dipeptidyl peptidase iv inhibitor' OR 'dipeptidyl peptidase iv inhibitors' OR 'dipeptidyl-peptidase iv inhibitors' OR 'dipeptidylpeptidase 4 inhibitor' OR 'dipeptidylpeptidase iv inhibitor' OR 'gliptin' OR 'gliptins' OR 'meglitinide'/exp OR '4 [2 (5 chloro 2 methoxybenzamido) ethyl] benzoic acid' OR 'hb 699' OR 'hb699' OR 'meglitinide' OR 'n (4 carboxyphenethyl) 5 chloro 2 methoxybenzamide' OR 'sodium glucose cotransporter 2 inhibitor'/exp OR 'sglt2 inhibitor' OR 'sglt2 inhibitors' OR 'gliflozin' OR 'gliflozin derivative' OR 'gliflozins' OR 'sodium dependent glucose cotransporter 2 inhibitor' OR 'sodium glucose co-transporter 2 inhibitor' OR 'sodium glucose cotransporter 2 inhibitor' OR 'sodium-glucose transporter 2 inhibitors' OR 'glucagon like peptide 1 receptor agonist'/exp OR 'glp 1 agonist' OR 'glp 1 receptor agonist' OR 'glucagon like peptide 1 agonist' OR 'glucagon like peptide 1 receptor agonist' OR 'glucagon like peptide 1 receptor stimulating agent' OR 'long acting glp 1 agonist' OR 'long acting glp 1 receptor agonist' OR 'long acting glucagon like peptide 1 agonist' OR 'long acting glucagon like peptide 1 receptor agonist' OR 'amylin derivative'/exp OR 'amylin analog' OR 'amylin derivative' OR 'amylinomimetic agent' OR 'amylinomimetic agents') AND ('cerebrovascular disease'/exp OR 'brain angiopathy' OR 'brain circulation failure' OR 'brain vascular disease' OR 'brain vasculopathy' OR 'cerebral small vessel disease' OR 'cerebral small vessel diseases' OR 'cerebral vascular disease' OR 'cerebral vascular disorder' OR 'cerebral vascular disturbance' OR 'cerebral vascular lesion' OR 'cerebral vasculopathy' OR 'cerebrovascular damage' OR 'cerebrovascular disease' OR 'cerebrovascular disorder' OR 'cerebrovascular disorders' OR 'cerebrovascular lesion' OR 'cerebrovascular pathology' OR 'cerebrovascular syndrome') AND ('randomized controlled trial'/exp OR 'controlled trial, randomized' OR 'randomised controlled study' OR 'randomised controlled trial' OR 'randomized controlled study' OR 'randomized controlled trial' OR 'trial, randomized controlled')

## CENTRAL

#1	MeSH descriptor: [Diabetes Mellitus, Type 2] explode all trees
#2	NIDDM or T2DM or T2D or MODY:ti,ab,kw (Word variations have been searched)
#3	non insulin* depend* or noninsulin* depend* or noninsulin?depend* or noninsulin?depend*:ti,ab,kw (Word variations have been searched)
#4	#1 or #2 or #3
#5	MeSH descriptor: [Metformin] explode all trees
#6	MeSH descriptor: [Insulins] explode all trees
#7	MeSH descriptor: [Sulfonylurea Compounds] explode all trees
#8	MeSH descriptor: [Thiazolidinediones] explode all trees
#9	MeSH descriptor: [Acarbose] explode all trees
#10	MeSH descriptor: [Dipeptidyl-Peptidase IV Inhibitors] explode all trees
#11	MeSH descriptor: [Sodium-Glucose Transporter 2] explode all trees
#12	MeSH descriptor: [Glucagon-Like Peptide 1] explode all trees
#13	MeSH descriptor: [Islet Amyloid Polypeptide] explode all trees
#14	(insulin degludec or insulin detemir or insulin glagine or insulin aspart or insulin zinc or insulin lispro or insulin isophane or insulin lente or insulin ultralente):ti,ab,kw (Word variations have been searched)
#15	long acting insulin or longer acting insulin or intermediate acting insulin:ti,ab,kw (Word variations have been searched)
#16	biganid* or metformin*:ti,ab,kw (Word variations have been searched)
#17	sulfonylurea* or acetohexamide* or carbutamide* or chlorpropamide* or glibenclamide* or gliclazide* or glimepiride* or glipezide* or gliquidone* or glyburide* or tolazamide* or tolbutamide*:ti,ab,kw (Word variations have been searched)
#18	thiazolidinedion* or glitazone* or pioglitazon* or rosiglitazon* or lobeglitazone*:ti,ab,kw (Word variations have been searched)
#19	alpha-glucosidase inhibitor* or acarbose* or miglitol*:ti,ab,kw (Word variations have been searched)

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Supplementary Table 1. Continued

	Search strategy
#20	dipeptidyl peptidase 4 inhibitor* or sitagliptin* or vildagliptin* or saxagliptin* or linagliptin* or gemigliptin* or DPP-4 or DPP-IV or DPP4 or DPPIV:ti,ab,kw (Word variations have been searched)
#21	meglitinide* or repaglinide* or nateglinide* or mitiglinide*:ti,ab,kw (Word variations have been searched)
#22	sodium glucose cotransporter inhibitor* or sodium glucose co transporter inhibitor* or atigliflozin* or bexagliflozin* or canagliflozin* or dapagliflozin* or empagliflozin* or ertugliflozin* or ipragliflozin* or luseogliflozin* or sergliflozin* or remogliflozin* or sotagliflozin\$ or tofogliflozin*:ti,ab,kw (Word variations have been searched)
#23	exenatide* or liraglutide* or albiglutide* or taspoglutide* or lixisenatide* or dulaglutide* or semaglutide*:ti,ab,kw (Word variations have been searched)
#24	or/#5-#23
#25	MeSH descriptor: [Stroke] explode all trees
#26	MeSH descriptor: [Ischemic Attack, Transient] explode all trees
#27	MeSH descriptor: [Brain Infarction] explode all trees
#28	MeSH descriptor: [Intracranial Hemorrhages] explode all trees
#29	stroke* or infarction* or hemorrhage* or cerebrovasc* or SAH:ti,ab,kw (Word variations have been searched)
#30	or/#25-#29
#31	#4 and #24 and #30
#32	#31 and trials