sociations for rs478333 and rs7754840 remained significant after adjustment for conventional risk factors.

The three implicated gene variants seem to be novel predictors of CKD associated with type 2 diabetes in a Chinese population. Jian et al. believe that their three-step process may be useful for selecting predictors of clinical outcomes in other large datasets including clinical and genetic data [Jian G, et al. Genetic and clinical variables identify predictors for chronic kidney disease in type 2 diabetes. *Kidney Int* 2016; 89:411–420].

Adding insulin to metformin increases hypoglycemia risk

For diabetic patients on metformin who require treatment intensification, adding insulin rather than sulfonylurea is associated with an increased risk of hypoglycemia, reports a study in the *Canadian Medical Association Journal*.

Using the Veterans Health Administration database, the researchers identified 178,341 patients who initiated metformin treatment between 2001 and 2008. Treatment was subsequently intensified using insulin in 2948 patients and sulfonylurea in 39,990 patients. Risk of a first or recurrent hypoglycemia event was compared in propensity score-matched groups: 2436 patients taking metformin plus insulin versus 12,180 patients taking metformin plus sulfonylurea.

At the time of treatment intensification, patients had been taking metformin for a median of 14 months and had a median glycated hemoglobin level of 8.1 percent. The follow-up data included 121 first hypoglycemic events among patients who added insulin and 466 first hypoglycemic events among patients who added sulfonylurea. Outcome rates were 30.9 versus 24.6 events per 1000 person-years, respectively—adjusted hazard ratio was 1.30 with insulin compared with sulfonylurea.

Insulin intensification was also associated with a higher rate of recurrent hypoglycemia: 39.1 versus 30.0 per 1000 person-years (hazard ratio of 1.39). Accounting for competing risk of death, the hazard ratio for initial hypoglycemia in the insulin group was 1.28 [Roumie CL, et al. Risk of hypoglycemia following intensification of metformin treatment with insulin versus sulfonylurea. *CMAJ* 2016; doi:10.1503/ cmaj.150904].