

hyperinsulinemic–euglycemic clamp), and insulin sensitivity. These tests were repeated after 12 weeks of daily treatment with glipizide 5 mg plus two placebo capsules, and after a further 24-week period in which the patients were randomly allocated to either continue glipizide plus placebo, or to receive glipizide plus two 0.5 mg chromium picolinate capsules. At the end of the study, patients treated with glipizide plus chromium picolinate had improved glycemic control, increased insulin sensitivity, reduced central obesity, and markedly reduced weight gain compared with those treated with glipizide plus placebo.

Clinical studies of dietary intake, skeletal-muscle fat oxidation, and insulin signaling in these patients, to investigate potential mechanisms for these findings, are ongoing.

Original article Martin J *et al.* (2006) Chromium picolinate supplementation attenuates body weight gain and increases insulin sensitivity in subjects with type 2 diabetes. *Diabetes Care* **29**: 1826–1832

Duration of diabetes is a key factor in ESRD and mortality

The prevalence of youth-onset (i.e. at <20 years of age) type 2 diabetes has doubled, worldwide, in the past 30 years; Pima Indians from the Gila River Indian community (Arizona, US) have a particularly high incidence of type 2 diabetes, and members of this community have participated in a longitudinal, population-based study of this condition since 1965—the most complete, long-term follow-up of youth-onset diabetes reported, to date.

Pavkov and colleagues assessed 1,856 Pima Indians (1,089 women) with type 2 diabetes. Of these, 96 had youth-onset and 1,760 had older-onset (i.e. when aged 20–55 years) diabetes. Between 1965 and 2002, 148 individuals developed end-stage renal disease (ESRD). After adjustment for age and sex, the incidence of ESRD was almost fivefold higher in participants aged 25–54 years with youth-onset diabetes, than in similar-aged individuals with older-onset diabetes. Pavkov and colleagues also compared mortality from natural causes in diabetic and nondiabetic Pima Indians: after adjustment for age and sex, study participants with youth-onset diabetes had threefold-higher mortality than 4,189 nondiabetic individuals (and slightly, but not significantly, higher mortality than

participants with older-onset diabetes). Fatal cardiovascular disease was associated with ESRD, but not with age at diabetes onset.

In middle-aged individuals with youth-onset diabetes, the increased incidence of serious, long-term complications was largely attributable to their prolonged duration of disease. Pavkov *et al.* suggest that treatment strategies should focus on delay or prevention of diabetes and diabetic nephropathy.

Original article Pavkov ME *et al.* (2006) Effect of youth-onset type 2 diabetes mellitus on incidence of end-stage renal disease and mortality in young and middle-aged Pima Indians. *JAMA* **296**: 421–426

Intensive diabetes-management programs might not improve patient outcomes

Many health-care providers have implemented diabetes-management programs with the aim of improving quality of care. Such programs typically involve disease registries, clinical guidelines, performance feedback, physician reminders, patient self-management support, and targeted management of high-risk patients; however, assessment of their efficacy has focused on improvements in care processes, such as screening for diabetic complications (retinopathy, nephropathy, foot problems), regular monitoring of disease markers (glycated hemoglobin, blood pressure, LDL cholesterol), and medication use. Previous studies suggested that diabetes-management programs improve care processes; Mangione and colleagues concur, but report that improved care processes do not necessarily translate into improved patient outcomes. They suggest that a focus on direct measurement, feedback, and reporting of patient outcomes might enhance the efficacy of diabetes-management programs.

Their cross-sectional study (Translating Research Into Action for Diabetes) investigated diabetes-management strategies in 6 research centers partnered with 10 managed-care health plans in 7 US states. A randomly selected sample of 13,086 adults with diabetes and ≥18 months of medical records was asked to complete a survey; 11,927 responded, and 8,661 consented to a review of their medical records. The health-care providers (all 10 health-plan directors and 52 of 68 physician-group