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## IN BRIEF

### REPRODUCTIVE ENDOCRINOLOGY

#### Updated guidance on evaluating suspected DSDs

New recommendations for the initial evaluation of infants or adolescents with a suspected disorder of sex development (DSD) have been published by the UK Society for Endocrinology. A UK DSD taskforce consisting of a range of clinical professionals, stakeholder professional societies and members of patient support and/or advocacy groups was formed in 2009 to provide guidance to clinical professionals who encounter infants or adolescents with a DSD, and to harmonize good clinical practice. The findings, published in *Clinical Endocrinology*, emphasize the importance of supporting the affected individual and their parents, assigning a sex of rearing and excluding the possibility of other early medical problems.

**Original article** Ahmed, S. F. *et al.* Society for Endocrinology UK guidance on the initial evaluation of an infant or an adolescent with a suspected disorder of sex development (Revised 2015). *Clin. Endocrinol.* doi:10.1111/cen.12857

### PCOS

#### Susceptibility loci identified in women of European descent

A new study has identified common genetic loci for the NIH polycystic ovary syndrome (PCOS) phenotype of hyperandrogenism and anovulation in women of European descent. In a genome-wide association study with two rounds of replication in different cohorts, three loci reached genome-wide significance. Two of the loci identified were novel: 8p32.1 in the region of *GATA4* (encoding a transcription factor that regulates gonadal development and transcription of steroidogenic genes) and *NEIL2*; and 11p14.1 in the region of *FSHB* (encoding follicle-stimulating hormone  $\beta$  subunit), which is strongly associated with PCOS diagnosis and luteinizing hormone levels. The third loci, 9q22.32, in the region of *AOPEP* and *FANCC*, was previously identified in Chinese women with PCOS. The findings, together with those from the Chinese cohort, implicate genes regulating gonadotropin action and secretion in the pathogenesis of PCOS.

**Original article** Hayes, M. G. *et al.* Genome-wide association of polycystic ovary syndrome implicates alterations in gonadotropin secretion in European ancestry populations. *Nat. Commun.* doi:10.1038/ncomms8502

### DIABETES

#### Mechanistic insights into diabetes-associated fluid loss

New research shows that reduced expression of electrolyte transport proteins contributes to diabetic diarrhoea, a gastrointestinal complication that is common in patients with type 1 diabetes mellitus (T1DM). In mice with streptozotocin-induced T1DM, the rate of fluid absorption in the small intestine (a marker of diarrhoea) was ~50% lower than that in nondiabetic control mice. Associated with this reduction, expression of  $\text{Na}^+/\text{H}^+$  exchanger 3 (NHE-3) and several proteins that bind NHE-3 were reduced in the intestinal brush border membrane (BBM). Under physiological conditions, NHE-3 and its binding proteins formed complexes that facilitated trafficking of NHE-3 to the BBM, consequent NHE-3 activity and ensuing fluid absorption; however, under diabetic conditions, NHE-3 complex formation was disrupted. Treatment of diabetic mice with insulin reconstituted NHE-3 complexes and restored fluid absorption. The findings highlight the pivotal role of multiprotein complex assembly in restoring fluid absorption in T1DM.

**Original article** He, P. *et al.* Restoration of  $\text{Na}^+/\text{H}^+$  exchanger NHE3-containing macrocomplexes ameliorates diabetes-associated fluid loss. *J. Clin. Invest.* doi:10.1172/JCI79552