

Clinical Trials Update

Online Exercise Plus Text Messages Improve Knee Osteoarthritis

A free online exercise intervention improved knee pain and function for people with knee osteoarthritis (OA), researchers reported in *JAMA Internal Medicine*.

All 206 study participants across Australia had access to a custom-built website with information on OA and the importance of exercise and physical activity. The intervention group also received a prescription for a 24-week self-directed strengthening regimen and guidance on increasing physical activity, supported by text messages encouraging exercise adherence.

At 24 weeks, 72% of the intervention group had clinically important improvements in pain compared with 42% of the control group; 68% of the intervention group and 41% of the control group had better function. The authors suggested that an unsupervised exercise intervention might constitute entry-level therapy, with patients progressing to more intensive, personalized management if needed.

Vagus Nerve Stimulation Restores Arm Function Years After Stroke

Vagus nerve stimulation (VNS) combined with rehabilitation improved function for patients with long-term moderate to severe arm impairment after an ischemic stroke, a trial in *The Lancet* reported.

The study at 19 US and UK rehabilitation centers involved 108 participants whose strokes occurred an average 3 years prior. Patients received an implanted VNS device and were randomized to active VNS or sham stimulation. All received rehabilitation 3 times a week for 6 weeks followed by a home exercise program.

Therapists timed the sham or VNS pulse with each arm movement repetition. During home exercises, participants received 30 minutes of active or sham VNS.

About twice as many participants in the VNS group achieved a clinically meaningful improvement in arm impairment. Ninety days after in-clinic therapy, 47% of this group had a clinically meaningful response compared with 24% of the control group. "Our data show it is possible to achieve meaningful improvements many years after stroke," the authors wrote.

Tranexamic Acid Reduces Blood Loss After Cesarean, but Not by Much

Tranexamic acid treatment led to significantly less postpartum hemorrhage in a multicenter phase 3 trial involving women who had a cesarean delivery and received prophylactic uterotonic agents.

The study, published in the *New England Journal of Medicine*, randomly assigned 4551 women in France undergoing cesarean delivery at 34 or more weeks to an intravenous prophylactic uterotonic agent and either 1 g of tranexamic acid or placebo.

Postpartum hemorrhage, defined as calculated estimated blood loss greater than 1000 mL or red blood cell transfusion by day 2, occurred in 26.7% of the tranexamic acid group and 31.6% of the placebo group. The average between-group difference in blood loss was about 100 mL. According to the authors, "the clinical relevance of this narrow difference is questionable since there were no significant between-group differences in the secondary clinical outcomes," including clinically significant hemorrhage or postpartum blood transfusion.

Thromboembolic events were low in both groups in the 3 months after delivery.

Hospital-at-Home Rivals Inpatient Care for Some Older Adults

So-called hospital-at-home (HAH) programs accelerated during the COVID-19 pandemic to decrease older patients' risks. In a recent UK multicenter trial published in the *Annals of Internal Medicine*, older adults who received hospital-level care at home coupled with a comprehensive geriatric assessment had similar outcomes as patients who received inpatient care.

The study's 1055 participants had an average age of about 83 years and medically complex problems that required an unplanned hospital admission. They were randomly assigned to HAH care with a full geriatric assessment (CGA) or hospitalization with CGA if available.

At 6 months, 78.6% of the HAH patients were living at home compared with 75.3% of the hospitalized group. Fewer patients receiving at-home care were admitted to



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long-term residential care, and mortality was similar among both groups.

The HAH group had a 32% relative increase in hospital readmission at 1 month but not at 6 months. Importantly, patients were more satisfied with HAH care.

Ready-to-Use Glucagon Analogue Quickly Reverses Hypoglycemia

A ready-to-use dasiglucagon injection rapidly reversed severe hypoglycemia among adults with type 1 diabetes who participated in a recent phase 3 trial. The next-generation glucagon analogue offers an advantage to glucagon, which requires reconstitution before injection, often resulting in delayed or inaccurate treatment.

The 170 participants were randomly assigned to receive 1 subcutaneous dose of 0.6 mg of dasiglucagon, 1 mg of reconstituted glucagon, or placebo during controlled insulin-induced hypoglycemia.

The median time from injection to plasma glucose recovery was 10 minutes for dasiglucagon, 12 minutes for reconstituted glucagon, and 40 minutes for placebo.

Dasiglucagon's simple use and rapid recovery time may prevent severe, persistent hypoglycemia that requires additional medical care, the authors wrote in *Diabetes Care*. – Anita Slomski

Note: Source references are available through embedded hyperlinks in the article text online.