Human placenta stem cells help people recover from hip surgery

By Clare Wilson

STEM cells taken from placentas have healing properties that can help people recover from having their hip joint replaced.

Placentas are normally thrown away after childbirth, but now Israeli company Pluristem has taken discarded placentas and developed a batch of mesenchymal stem cells from them. These cells have the potential to turn into different kinds of tissue and release chemicals that promote healing.

To see how the cells affect muscle repair, Tobias Winkler of Charité – Berlin University of Medicine in Germany and his colleagues tested two different doses of the cells in 20 people having hip replacements. During the operation, surgeons have to cut into muscle
tissue around the joint, which can leave people limping for several months, particularly if it is not their first hip replacement.

Six months after surgery, people who got a dose of cells had stronger hip muscles than those in the placebo group, as measured by an exercise machine (Journal of Cachexia, Sarcopenia and Muscle. doi.org/cvsx). All of the people in the experiment – even those in the placebo group – were limp-free by the time they were tested at six months, probably because everyone was having their first hip surgery, says Winkler. The improvements seen in strength suggest that the cells would reduce limping in people having second or third joint replacements, where the muscle starts off in worse condition, says Winkler.

“Six months after the operation, people who got stem cell doses had stronger hip muscles”

Dennis McGonagle at the University of Leeds, UK, says animal studies show that stem cells are often killed by the recipient’s immune system when they are injected into the body. But mesenchymal stem cells seem to release tiny packages of beneficial compounds before this happens. “They are full of growth factors and other goodies,” he says.