

Regenerative Medicine gives a much needed update on magnetic tracking in cell therapy

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A new article published in *Regenerative Medicine* reviews the latest advances in magnetic particle tracking in cell therapy, a potentially groundbreaking strategy in disease treatment and regenerative medicine.

Cell therapy is one of the most promising avenues for [regenerative medicine](#), however, its success is restricted by a number of limitations, such as inefficient delivery and retention of the therapeutic cells at the target organ, difficulties in monitoring the safety and efficacy of the therapy, in addition to issues obtaining and maintaining therapeutic cell phenotypes.

In a review by a group from the UCL Centre for Advanced Biomedical Imaging team (London, UK), emerging and established magnetic particle-based techniques for targeting, imaging and stimulating cells in vivo are discussed, in addition to potential benefits of their application in cell-based regenerative medicine therapies the clinic.

"The magnetic control of [stem cells](#) inside the body is a fascinating and promising concept for treatment of a vast range of diseases" commented Mark Lythgoe, director of the Centre for Advanced Biomedical Imaging at UCL. "Using microscopic nanomagnets we now have the potential to image, guide and activate [therapeutic cells](#), combining therapy and diagnosis - theranostics - creating a novel type of dual imaging/therapy'

Commissioning Editor for *Regenerative Medicine*, Elena Conroy, added: "This timely review provides a much needed update on the different

methods by which researchers can track [cells](#) with magnetic particles and how these can be used for cell therapy. I strongly believe that this will be of great use to cell biologists in both regenerative medicine and other research areas."

More information: John J Connell et al. Advanced cell therapies: targeting, tracking and actuation of cells with magnetic particles, *Regenerative Medicine* (2015). [DOI: 10.2217/rme.15.36](https://doi.org/10.2217/rme.15.36)

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