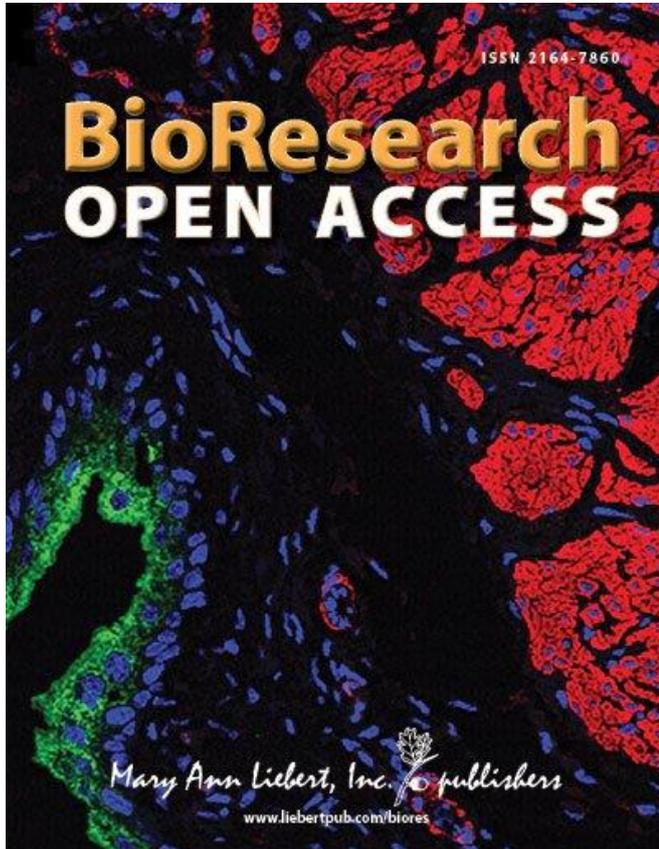


# Innovative tissue engineering strategies to repair spinal disc herniation

8 December 2015



In "[Tissue Engineering a Biological Repair Strategy for Lumbar Disc Herniation](#)," Grace O'Connell, PhD, University of California (UC), Berkeley, and J. Kent Leach and Eric Klineberg, UC, Davis and UC, Davis Medical Center, describe recent progress in clinical studies of cell-based [tissue engineering](#) approaches combined with materials-based advances. The authors provide a comprehensive review of the literature, clearly presenting the features of clinical disc herniation, the mechanical properties of intervertebral discs and how they relate to the stability, flexibility, and load-bearing functions of the spine, and the latest research on the scope and promise of tissue engineering approaches to repair or replace disc tissue.

"This review provides an excellent up-to-date source of information on the role tissue engineering and [regenerative medicine](#) strategies can play in [disc herniation](#) repair," says *BioResearch Open Access* Editor Jane Taylor, PhD, MRC Centre for Regenerative Medicine, University of Edinburgh, Scotland.

Provided by Mary Ann Liebert, Inc

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New therapeutic approaches to repair herniated discs in the lumbar spine using novel tissue engineering and regenerative medicine strategies have shown promising outcomes in preclinical studies and target the underlying problem of disc injury or instability, unlike current nonsurgical and surgical treatments. Though these emerging biological repair methods still face challenges as they advance to and through clinical testing in patients, they may be able to offer significant pain reduction and restore flexibility and motion of the spine, according to a Review article published in *BioResearch Open Access*.

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