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Application of biologics in the treatment of the rotator cuff, meniscus, cartilage, and osteoarthritis.

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Abstract

Advances in our knowledge of cell signaling and biology have led to the development of products that may guide the healing/regenerative process. Therapies are emerging that involve growth factors, blood-derived products, marrow-derived products, and stem cells. Animal studies suggest that genetic modification of stem cells will be necessary; studies of cartilage and meniscus regeneration indicate that immature cells are effective and that scaffolds are not always necessary. Current preclinical animal and clinical human data and regulatory requirements are important to understand in light of public interest in these products.

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