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## Could targeting epigenetic processes relieve chronic pain states?

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### Abstract

**PURPOSE OF REVIEW:** Aberrations in the epigenetic landscape have previously been associated with human diseases such as cancer and schizophrenia, and drugs that target epigenetic processes are currently used as therapeutic agents. This article will review the evidence obtained from animal studies indicating that epigenetic processes might regulate long-term pain states and then discuss the possibility that targeting epigenetic mechanisms might be useful for the management of chronic pain.

**RECENT FINDINGS:** Recent animal studies have reported injury-induced changes in epigenetic processes in the central nervous system. The picture that has emerged is that of very complex epigenetic programs that depend on the injury. However, some studies have reported the successful use of nonspecific epigenetic tools to improve the hypersensitivity that develops in animal models of long-term pain states.

**SUMMARY:** The field of epigenetics and pain is rapidly emerging but further investigation is needed to fully comprehend the contribution of epigenetic processes to chronic pain states. Although therapeutic approaches targeting these mechanisms might seem worthwhile, we cannot assert that currently available global tools such as histone deacetylase inhibitors can be used successfully for the long-term treatment of chronic pain states.

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