

# Stage-dependent C-reflex, pain-like behavior and opioid analgesia during the induction of chronic arthritis in rats

Alvarez, Pedro

Hernández, Alejandro

Constandil, Luis

Infante, Claudio

Pelissier, Teresa

© 2014 Federation of European Neuroscience Societies and John Wiley & Sons Ltd. Chronic arthritis (CA) is a common clinical entity associated with persistent pain and limited response to opioid analgesic therapy. However, it is unknown whether these features of CA change depending on its stage of evolution. To address this, in a well-established animal model of CA we studied the time course of electromyographic responses to electrical stimulation of C fibers (C-reflex), pain-like behavior as a response to mechanical nociceptive stimulation, and the inhibition of both responses by a prototypic opioid analgesic, morphine. To induce CA, rats received a single injection of complete Freund's adjuvant into the ankle joint and the C-reflex responses to electrical stimuli or the nociceptive response to paw pressure test were studied 2, 4 or 6 weeks later. The C-reflexes evoked by threshold and supra-threshold electrical stimulation exhibited progressive increases together with enhancement of th