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## Persistent postsurgical pain

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Chronic pain after surgery is a significant problem that reduces the quality of life of patients. More than 45 million surgical procedures are performed in the United States each year. It has been estimated that acute postoperative pain will develop into persistent postoperative pain (PPP) in 10% to 50% of individuals after common operations. Since chronic pain can be severe in up to 10% of these patients, PPP represents a major clinical problem—affecting at least 450,000 people each year. Despite improved understanding of the process, interpretation of pain signals, and the development of new analgesic techniques, under-treatment of postoperative pain continues to be a problem. Iatrogenic neuropathic pain is a common cause of PPP. Treatment should be targeted at the progression of mechanisms leading to neuro-degeneration. Furthermore, we need to educate patients wanting surgery for reasons other than illness or disability of the risk of the development of PPP. It is recognized that aggressive peri-operative interventions can reduce the intensity of acute postoperative pain, which reduces the risk of a patient developing PPP. Risk factors include genetics, psychosocial issues, pain disorders, age/gender, acute pain and type of surgery. Based on all these factors, it is appropriate to apply a multimodal approach to preventing postoperative pain. This presentation will review strategies for the identification of patients at risk for PPP, as well as possible treatment strategies.

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## Pain in healthy newborns and in newborns with developmental problems (Down syndrome)

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**Background:** Newborn babies are often subjected to invasive and painful medical procedures. This happens even more frequently when they require hospitalization.

Aim: The order of this paper is evaluate pain in healthy newborn babies and in newborn babies with Down Syndrome (DS).

**Design and Settings:** We performed a prospective cohort study in the neonatal service of the San Cecilio University Hospital in Granada (Spain) from January 2008 to September 2012.

**Subjects:** The universe of our study was made up of a study group of 20 newborn babies with Down syndrome and a control group of 20 normal newborn babies. All of these infants were hospitalized, thus had to undergo painful medical procedures.

**Methods:** The variables studied were basal recovery time (as reflected in crying and the normalization of biological constants), number of punctures, oxygen saturation, heartbeat, blood pressure, response to skin-to-skin contact, and gestational age. The evaluation was performed during blood extraction, vein canalization, and heel puncture.

**Results:** The significant differences in the basal recovery time for normal babies and babies with Down syndrome indicated that the babies with DS were slower to express pain, and when they did, their response was not as clearly defined as that of normal babies. The oxygen saturation in babies with Down syndrome after the puncture was found to be significantly lower than that of healthy babies (p<0.001).

**Conclusions:** The results of this study revealed that babies with Down syndrome were not as quick to perceive pain after a puncture. However, when pain was finally perceived, it persisted for a longer time. This situation should be taken into account in the design of pharmacological and non-pharmacological therapies.

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