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Virtual realities to relieve pain

The sensation of pain caused by an operation may be relieved thanks to: sophisticated virtual reality headsets, a simple video game and a proactive predisposition of the patient. Research psychologists at the UAB claim that this type of distraction reduces the intake of sedatives.

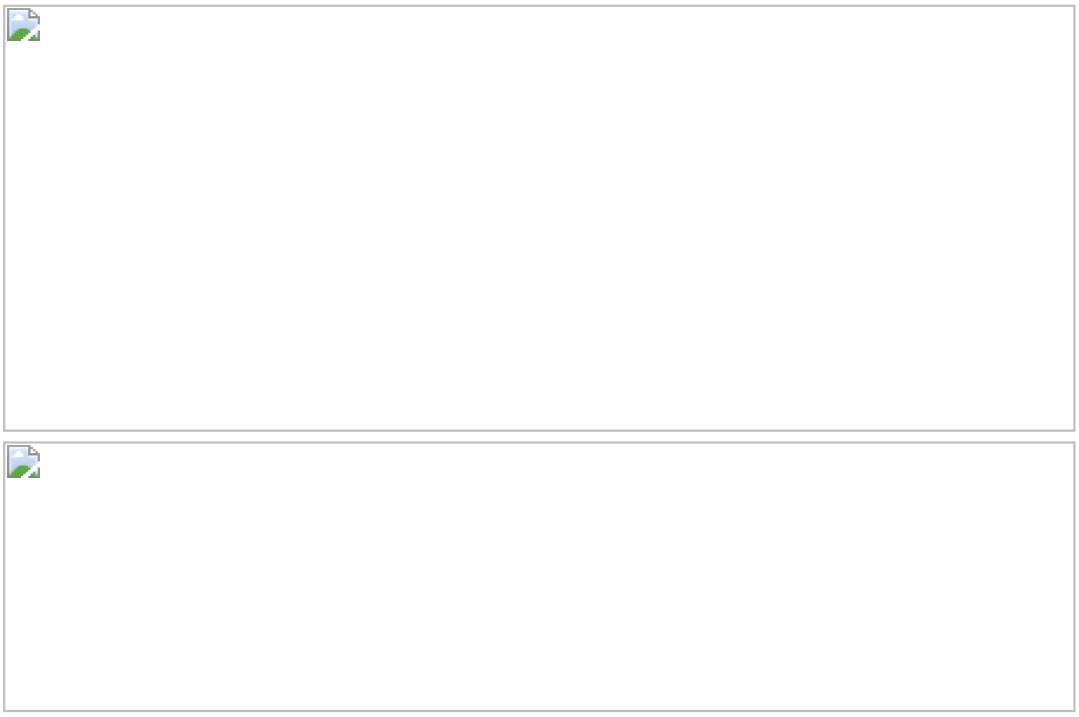
For over a decade, distraction technique has been researched and applied successfully in clinical practice, with the aim of relieving the pain associated with certain medical procedures. The application of distraction is based on the premise that the perception of pain has an important psychological component in which the amount of attention paid to the unpleasant stimulus affects the perception of pain.

Distraction techniques are based on the limited capacity of a patient's attention, leading to a reduction in the attention paid to the stimulus and a corresponding reduction in the same. It is assumed that an ideal distracter would require an optimal amount of attention involving multiple types of senses (visual, auditory and kinaesthetic), an active emotional involvement and participation on the part of the patient to compete with the signals coming from the unpleasant stimulus.

Advanced distraction techniques (ADT's), which have recently been, developed use 3-D images combined with dynamic audio stimuli, making it more likely that they will fulfil the requirements of an ideal distracter than the traditional methods of distraction such as watching a film or playing a simple video game.

ADT's emulate real life situations with a high ecological validity, and the possibilities are infinite. For example, now users can choose between flying a plane, driving a car, skiing down a mountain, exploring buildings and many more activities.

In this study "peer-reviewed" publications on ADT's and pain have been reviewed to determine the effectiveness and clinical importance of ADT's in inducing analgesia. The results suggest that ADT's may significantly reduce pain associated with surgical operations. The induction of analgesia was clinically relevant in most cases, especially in patients who presented very high or unbearable levels of pain. It was noted that levels of anxiety were reduced during exposure and side effects such as simulator sickness, were hardly observed at all.



Patients doing rehabilitation exercises with the aid of virtual reality headsets.

Although some studies still centre mainly on technological features of ADT's, the psychological aspects are being given more consideration. Several personality characteristics (such as absorption and dissociation) have been identified as important determiners of the degree of involvement on the part of users, possibly affecting the effectiveness of technological progress. For example, some patients perceive a reduction in visual field (due to the audiovisual headset) and a loss in awareness of the doctor's activities as a loss of control leading to an increase in anxiety and pain; while others value positively the fact that they cannot see and be aware of the doctor's activities.

We can conclude that ADT's are very effective inducers of analgesia, and they may reduce the amount of analgesics traditionally administered. This new field of study may begin to advance beyond its present phase laying more emphasis on methodology and psychological aspects.

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References

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